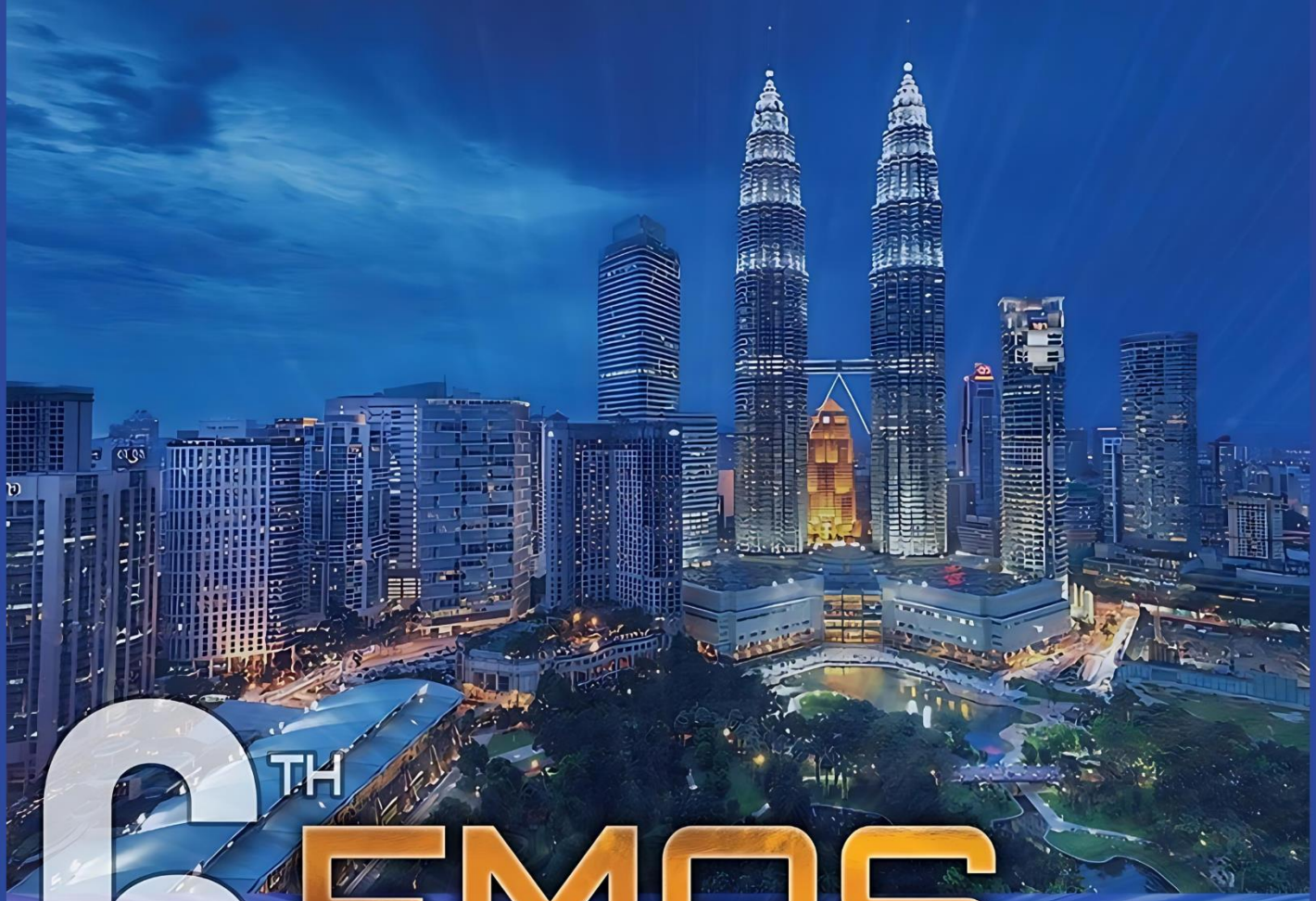

6TH EMAS

EMERGENCY MEDICINE ANNUAL SCIENTIFIC MEETING

5-6 AUGUST 2024 | KUALA LUMPUR CONVENTION CENTRE

"BRIDGING GAPS, BREAKING BARRIERS"

Silver Sponsor

Bronze Sponsor

Others

GUEST EDITORS

Dr Ida Zarina Zaini

Lecturer & Consultant Emergency Physician

Hospital Canselor Tuanku Muhriz UKM

Dr Nurul Huda Ahmad

Lecturer & Emergency Physician

Universiti Teknologi MARA & Hospital Al-Sultan Abdullah UiTM

Dr Aireen Zamhot

Lecturer & Emergency Physician

Hospital Canselor Tuanku Muhriz UKM

Dr Muhammad Nur Azmi Baharuddin

Lecturer & Emergency Physician

Universiti Teknologi MARA & Hospital Al-Sultan Abdullah UiTM

Dr Siti Amirah Liyana Yahaya

Emergency Physician

Sultan Ahmad Shah Medical Centre @ IIUM

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

ABSTRACTS

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

001

A COMPLICATION OF TRANSCATHETER AORTIC VALVE IMPLANTATION (TAVI)

Danial Shaharel[1], Ahmad Suhailan Mohamed[1], Farina Md Saleh[1]

[1]Emergency Department, Institut Jantung Negara, Kuala Lumpur, Malaysia

Introduction: Transcatheter aortic valve implantation (TAVI) is an alternative treatment option for severe aortic stenosis (AS) patient who are not suitable for surgery. Despite its favorable outcome, TAVI is not free from complications which needs to be monitored post implantation.

Case Report: A 73-year-old lady presented with multiple episodes of syncope associated with lethargy. She is a known case of severe AS and had a TAVI procedure performed a week ago at our hospital. Electrocardiography showed a complete heart block at 35 bpm. Echocardiogram showed no evidence of pericardial effusion, paravalvular leak or aortic dissection. Intravenous dopamine infusion was started in view of her bradycardia and borderline hypotension. A permanent pacemaker was inserted, and she made an uneventful recovery.

Discussion: TAVI is becoming a viable choice for patients with severe AS, especially the elderly with high risk for surgery. The new aortic valve is placed inside the diseased valve percutaneously using a catheter via the femoral artery. This procedure has lower complication, but they do exist, as illustrated in our case. Studies have shown that the rate of pacemaker implantation for Atrio-ventricular block post TAVI occurs in less than 10% of cases at 30 days. Other complications associated with TAVI includes, paravalvular leaking, aortic dissection/perforation, arrythmias, stroke and cardiac tamponade.

Conclusion: TAVI is becoming a more viable and common mode of therapy for severe AS, due to its better outcome and faster recovery. Emergency Physicians needs to be aware of the potential complications post procedure associated with this new technology.

Keywords: transcatheter aortic valve implantation, complete heart block, complications

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

002

HYPOGLOSSAL NERVE PALSY POST SURGERY

Farhana Ahmad Tarmizi[1], Tennyson Kwan[1], Ahmad Suhailan Mohamed[1], Farina Md Saleh[1]

[1]*Emergency Department, Institut Jantung Negara, Kuala Lumpur, Malaysia*

Introduction: We present a case of hypoglossal nerve palsy after general anaesthesia.

Case Report: A 70-year-old gentleman complained of slurring of speech, difficulty in swallowing and numbness on one side of his tongue, since his coronary artery bypass surgery which was done a month ago. On examination, his tongue deviated to the left and his gag reflex was present. Other neurological examination was unremarkable. CT Brain showed no evidence of acute intracranial infarct or bleeding. He was referred to the otorhinolaryngology team for further follow-up.

Discussion: Hypoglossal nerve, the twelfth cranial nerve (CNXII) arises from hypoglossal nucleus, exits the medulla, passes between the major vessels in the neck through the hypoglossal canal, enters the mouth along the posterior margin of mylohyoid muscle. This long course makes the hypoglossal nerve vulnerable to injury from traumatic forceful laryngeal manipulation, prolonged intubation, or extreme flexion and extension positioning of the neck. Male patients are more vulnerable given their larger hyoid bone dimensions. This rare complication can be prevented by minimizing airway instrumentation during endotracheal intubation, and periodically monitoring the endotracheal cuff. Signs and symptoms are self-limiting, with resolution occurring in majority of cases within 2 - 4 months.

Conclusion: Isolated hypoglossal nerve palsy or neurapraxia is a rare post-operative complication after airway management. The diagnosis is frequently missed due to the delayed onset of symptoms, and often requires further evaluations to exclude stroke and other serious etiologies.

Keyword: hypoglossal nerve palsy

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

003

FROM SORE THROAT TO JUGULAR VEIN: UNRAVELLING THE ENIGMA OF LEMIERRE'S SYNDROME

Navin Ravi[1], Shahira Ruslan[1]

[1]*Emergency and Trauma Department, Hospital Sultanah Maliha, Langkawi*

Introduction: Lemierre's syndrome (LS) is a rare complication following an oropharyngeal infection and is characterized by thrombophlebitis of the internal jugular vein (IJV) and further complicated with septicemia, IJV thrombosis and septic emboli.

Case: A 47 years old lady presented to Emergency Department with fever, sore throat, lethargy and swelling over the left neck for 4 days. She was septic looking and hemodynamically unstable. Examination showed a tender left neck swelling measuring about 3cm x 3cm with no skin changes and enlarged bilateral tonsils (Grade III). C-reactive protein was 334 mg/L. Neck Xray showed no thickening of soft tissue or thumb sign. Contrast enhanced CT (CECT) neck revealed bilateral palatine tonsillitis with left peritonsillar microabscess and surrounding inflammatory changes causing oropharynx narrowing and left IJV thrombosis. She was treated with IV Ceftriaxone for 1 week, IV Metronidazole for 5 days and anti-coagulant for provoked thrombosis. On Day 7 of admission, she developed septic lung metastasis where she received IV Ceftazidime for another week. Her condition improved and discharged with oral antibiotic for another 4 weeks and direct oral anti-coagulant.

Discussion: Radiological findings of intraluminal filling defect in the jugular venous wall often provide the first diagnostic clue for LS. CECT is considered the gold standard and is superior to ultrasound as it allows better assessment of deeper venous segments, depict sites of septic emboli and primary infection. If left untreated, release of septic emboli into the systemic circulation results in the widespread dissemination commonly into the lungs, dural venous sinus, meninges and joints. The mainstay of treatment for LS is antibiotic therapy for 6 weeks. Anticoagulation is usually recommended when the thrombus extends into the cerebral sinuses, for large or bilateral clot burden, or when a patient fails to improve in the first 72 hours with appropriate antibiotic and/or surgical therapy.

Conclusion: Due to the high frequency of benign oropharyngeal infections, the diagnosis of LS is often elusive on initial presentation. A high degree of suspicion of LS is essential when patients present with acute tonsillopharyngitis with neck pain and septic syndrome.

Keywords: Lemierre's Syndrome, IJV thrombosis, septic emboli

004

UNUSUAL PRESENTATION OF FOURNIER GANGRENE

Jocelyn Teh Yeen[1], Lee Jun Kwong[1]

[1]*Emergency and Trauma Department, Sarawak General Hospital, Kuching, Sarawak, Malaysia*

Introduction: Fournier gangrene is an uncommon and life-threatening infection that impacts the genital and perineum region. Despite optimal modern medical treatment, Fournier gangrene has an exceptionally high mortality rate. Early surgical intervention is critical for increased likelihood of recovery. Nevertheless, Fournier gangrene frequently manifests with generalized sepsis symptoms, which can pose a diagnostic challenge in the emergency department. We report a case of a middle-aged woman who was diagnosed with Fournier gangrene but presented with an unusual symptom of left flank pain.

Case Description: A 42-year-old female patient presented to the emergency department after having fever for six days, followed by two days of diarrhoea, vomiting, and left flank pain. She presented at an outpatient clinic on the fifth day of her illness; however, she was discharged with symptomatic treatments. The following day, the patient revisited a district hospital and was given a diagnosis of leptospirosis and subsequently transferred to a tertiary hospital. Physical examination revealed tenderness and guarded left upper abdominal quadrant with a positive renal punch over the left side. Her abdominal x-ray showed a peculiar “pocket of air” around the left upper quadrant. Based on these clinical findings, a provisional diagnosis of severe sepsis secondary to emphysematous pyelonephritis was given. Later a computed tomography (CECT) revealed extensive Fournier gangrene with air-containing collections involving the perineum and perianal regions, extending to the extra- and retroperitoneal spaces.

Discussion: The patient was admitted for further operative management. During a lower midline laparotomy, a 150cc pus was found in the Retzius space and posterior to the pubic symphysis. Additionally, there was a 400cc pus in the right ischioanal space, and a 500cc pus in the retroperitoneal space. The pus culture revealed Escherichia coli and this was treated with Piperacillin/Tazobactam and Clindamycin. Eventually she was discharged in good condition with a scheduled surgical check- up.

Conclusion: Fournier gangrene can be remarkably extensive as shown in this case report. The presence of gas shadow on abdominal X-ray, caused by gas-producing organisms, warrants consideration for a diagnosis of Fournier gangrene. Subsequent imaging and prompt surgical intervention are imperative.

Keywords: fournier gangrene, xray , gas shadow

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

005

IS THIS THE POWER OF ZEUS, THE GREEK SKY AND THUNDER GOD?

Narong Reed A/L Prem[1], M. Fakhurrazi[1]

[1]*Emergency and Trauma Hospital Tuanku Fauziah Kangar Perlis Malaysia*

Introduction: Lightning is a powerful electrical discharge that can cause electrical injuries. This can result in a range of injuries, from mild to severe. In this case, it can cause burns as the electrical current travels through the skin. Without a doubt, medical trauma resulting from a lightning injury requires prompt and comprehensive medical care especially in Emergency Department.

Case Presentation: We're receiving a male, 8 years old male who had been struck by lightning on his way back to his home. He was taking shelter under a tree when lighting strikes. Post trauma, he sustained loss of consciousness at scene, subsequently regain consciousness at ED. Upon arrival in ED, the patient was conscious but restless and triaged to redzone. Vital signs upon arrival are BP: 141/95, PR: 119, Temp: 37.3 and SPO2: 96% under RA. Patient was intubated in view of circumferential neck burn with suspected airway injury for airway protection. During intubation, we noted laryngeal oedema and vocal cord oedema. In ED, the patient was resuscitated with IV Hartmann according to Parkland formula. Patient was properly sedated with on IVI Midazolam and given analgesia of IVI Fentanyl. On examination, GCS E1M1V1, sedated with second degree burn over chest, abdomen and bilateral lower limb and genital area, second degree burn over circumferential neck area approximate about 25%. This case was referred to Plastic team HSB by surgical team HTF and to admit this patient to PICU HSB.

Discussion: Immediate medical attention is crucial for lightning strike victims as cardiac arrest is a common immediate consequence. As for this patient, a quick decision was being made for early intubation since the patient has develop laryngeal oedema and vocal cord oedema, in order to prevent upper airway obstruction. Fluid resuscitation and the Parkland Formula is used as burns can lead to significant fluid loss and dehydration. The goal of fluid resuscitation in burn patients is to maintain organ perfusion and prevent hypovolemic shock.

Conclusion: Effective management of burn injuries necessitates a well-coordinated and personalised strategy, encompassing multiple medical disciplines. Timely interventions, comprehensive care, and continued support enhance outcomes and enhance the quality of life for those who have suffered burn injuries.

Keywords: burn injuries, Parkland Formula, Hartmann

006

EMERGENCY TANGO SHOCKS WITH ITS CATACLYSMIC METAMORPHOSIS: DE WINTER ECG AND OCCLUSIVE MYOCARDIAL INFRACTIONS DANCE A PLAYFUL YET URGENT WALTZ

Muhammad Shafiq Kadir[1], Mhd Nazrul Fitri Mhd Nizar[1]

[1]*Emergency and Trauma Department, Hospital Sultanah Maliha, Langkawi, Kedah, Malaysia*

Introduction: Originally described by Robbert J.de Winter in 2008, the De Winter electrocardiography (ECG) is characterized by ST-segment depression with peaked T waves in the precordial leads and subtle ST elevation in aVR. This finding is ominous, with an incidence rate of approximately 2% of all patients with acute anterior myocardial infarction (MI), making it relatively rare.

Case Presentations: A 33-year-old male, previously healthy but a smoker, presented with chest pain during sex and presyncopal attack. Upon arrival, he appeared diaphoretic and drowsy, normotensive, his heart rate was normal and oxygen saturation was 94-95%. No failure signs were noticed. Initial ECG manifested the de Winter pattern in leads V2-V4 with reciprocal ST depression in lateral leads. Serial 10-minute ECGs, revealing a shift to ST elevation in anterior and lateral leads with ST depression in inferior leads.

Streptokinase was administered, resulting in partial resolution of ECG changes, but he developed cardiogenic shock and ventricular tachycardia. In the ward, he required high-flow oxygen, received Furosemide and Amiodarone infusions, and was transferred to the tertiary hospital. Coronary angiogram unveiled two-vessel disease with 40% occlusions in the proximal right circumflex artery and 80% in the proximal left anterior descending artery (LAD), which were stented. Following discharge, unfortunately he returned with cardio-embolic stroke.

Discussions: This ECG pattern is a harbinger of critical LAD coronary artery occlusions with ongoing transmural ischemia, leading to ST elevation MI, posing diagnostic and therapeutic challenges. The distinction between occlusive and non-occlusive MI in the context of De Winter is elucidated, underscores the urgency of timely interventions. While urgent angiography is warranted, accessibility to cardiac catheter laboratories varies among hospitals, making thrombolytic therapy the primary consideration. In the quest to determine if thrombolysis is effective for this enigmatic ECG pattern, diligent monitoring of patients exhibiting persistent ischemic symptoms becomes imperative within a crucial yet uncertain timeframe, notably overlooked from most recent guidelines.

Conclusion: While percutaneous coronary intervention is still the gold standard, a dilemma arises in such presented cases particularly in settings without this option: should thrombolysis be initiated immediately or closely monitored first for the evolution.

Keywords: de Winter

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

007

ENHANCING CEREBRAL PROTECTION: A CLOSED-LOOP VENTILATION APPROACH FOR TARGETED CARBON DIOXIDE REGULATION IN TRAUMATIC BRAIN INJURY

Fatin Izzati MA[1], Abdul Muhaimin NA[1]

[1]*University Malaya Medical Centre, Kuala Lumpur, Malaysia*

Introduction: Cerebral protection aims to prevent secondary brain injury and by maintaining stable levels of carbon dioxide (CO2), oxygen, temperature, blood sugar, and blood pressure. CO2 significantly affects cerebral blood flow (CBF): high levels cause vasodilation, increasing blood volume and intracranial pressure, while low levels cause vasoconstriction, reducing cerebral perfusion. A closed-loop ventilator (CLV) is an advanced system that automatically adjusts its settings based on continuous feedback from the patient. Using real-time CO2 levels, the CLV makes precise ventilation adjustments. Here, we demonstrate a case utilizing CLV to control CO2 levels and regulate CBF.

Case Description: A 19-year-old male presented with motor-vehicle-accident, sustaining severe traumatic brain injury. CT Brain revealed interhemispheric bleeding and subarachnoid haemorrhage. Initial Glasgow Coma Scale (GCS) was Eye 1, Verbal 1, and Motor 3. Intubation for cerebral and airway protection included connection to INTELLIVENT – Adaptive Support Ventilation, a fully automated CLV using the "Brain Injury" mode, clinician just need to enter the target End Tidal CO2 (EtCO2) range and the ventilator is left on automated mode till it reaches the targeted EtCO2 level. His serial partial carbon dioxide (pCO2 - mmHg) levels, taken hourly for 4 hours, are as follows: 39.9, 32.2, 35.1, 37.4, 35.5. He was subsequently admitted to the intensive care unit (ICU), and an intracranial pressure (ICP) probe was inserted by the Neurosurgical team for 48 hours, resulting in full GCS recovery. He was discharged home with intact neurological function and periodic assessments by the neurosurgical rehabilitation follow-up team.

Discussion: Ventilation strategy is crucial for CO2 control. CLV adapts and automates ventilator settings in TBI patients based on continuous feedback, adjusting parameters which includes the tidal volume, respiratory rate and inspiratory/expiratory ratio for desired CO2 levels using capnography. This is not only efficient in achieving the target but also user-friendly, requiring fewer manual adjustments.

Conclusion: In the hectic ED environment, frequent ventilator adjustments for CO2 maintenance are challenging. CLV offers a solution, utilizing breath-to-breath analysis, adapting to the patient's CO2 level, and automating ventilator parameters to achieve the desired CO2 level. Clinician's role now shifts from "presetting" parameters to "deciding" the target CO2 level, permitting CLV handle the adjustments.

Keywords: Closed-loop ventilation, Cerebral protection, Automated ventilation.

008

CLOT BUSTER TO THE RESCUE. SAVING AN 11-YEAR-OLD BRAIN FROM BASILAR BLUES. A CASE REPORT OF MECHANICAL THROMBECTOMY FOR ISCHEMIC STROKE IN A -11 YEAR OLD BOY.

Siti Nabilah Aisyah[1], Alex Tang[1], Noriani bt Daud[1], Paranthaman Kaneson[1], Sofiah Ali[1]

[1]*Emergency Room Subang Jaya Medical Center*

Introduction: Annual incidence rates of ischemic stroke in infants and children can range from 0.6 to 7.9 in 100 000 children per year. Ischemic stroke in children also may result in significant morbidity and mortality in children.

Case: A 11-year-old boy with no known medical illness was initially treated for Bell's palsy in other hospital. He presented to our Emergency Room with one day history of left sided facial droop and later developed right upper limbs and lower limbs weakness. 3 days prior to this, he had a fall on the road while riding his bicycle. On examination, vital signs were stable. CNS examinations revealed child has slurred speech with left facial droop, sparing forehead lines, pupils 2mm bilaterally and reactive. Muscles power both right-sided upper limbs and lower limbs were 0/5. CT brain initially was normal. MRA brain with contrast later revealed multifocal infarction as well as subacute infarction most likely secondary to vasculitis of the basilar artery. Patient underwent basilar thrombectomy under GA by intervention radiologist and followed by cerebral resus for 48 hours in PICU. The child also went through extensive rehab in-patient and made a good recovery. Extensive blood tests were also done to rule out connective tissue disease, autoimmune diseases and hematological disorders. However, all tests were normal. Differential diagnosis would be basilar artery dissection as child had history of fall.

Discussion: Multiple studies have showed that pediatrics ischemic stroke is more profound in boys. Unlike in adults, heart disease, haematological condition, vasculopathies, infection, head and neck trauma, metabolic disorder and drugs ingestion are more common etiologies for stroke. In young children, stroke can be presented as focal weakness while older children usually have hemiparesis, aphasia, visual disturbance, cerebellar signs, headache and seizure. Brain imaging should be done immediately in order to achieve diagnosis with consideration of immediate intervention. Brain MRI is more sensitive in acute time period.

Conclusion: Children who are presented to ER with acute neurological deficit should be evaluated urgently with through physical examination and urgent brain imaging to rule out stroke as immediate intervention by thrombolysis or mechanical thrombectomy can improve outcome.

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

009

PULSELESS, YET STILL CONSCIOUS: A CASE REPORT OF CARDIOPULMONARY RESUSCITATION-INDUCED CONSCIOUSNESS

Farah Hanida Amran[1], Tan Nin Ern[1]

[1]*Department of Emergency and Trauma, Hospital Segamat, Johor, Malaysia*

Introduction: Cardiopulmonary resuscitation-induced consciousness (CPRIC) is the event where patient appears conscious with spontaneous movement during cardiopulmonary resuscitation (CPR). This phenomenon remains a challenge to the resuscitation team, due to paucity of consensus guidelines on the management. We present a case of CPRIC with return of spontaneous circulation (ROSC), with patient's recollection of the event.

Case Description: A 42-year-old lady with ischemic heart disease, complained of left-sided chest pain on the presenting day, associated with diaphoresis and dyspnoea. Diagnosis of acute anterolateral ST elevation myocardial infraction (Killip 4) was made based on ECG and physical examination. Medical thrombolysis was administered. She was noted gasping with ventricular fibrillation on cardiac monitor after 20 minutes of thrombolysis. Resuscitation was commenced as per Advanced Life Support (ALS) protocol. Throughout resuscitation, the patient had persistent purposeful movements and eyes opening, which abated upon cessation of chest compression. Intravenous midazolam 2mg was given to reduce her agitation and crashed intubation was successfully performed. ROSC was achieved after 24 minutes of CPR. The patient was stabilised and admitted to cardiac care unit. An interview regarding the recollection of the CPR event revealed that she was aware of the chest compression performed on her and voices around. This was followed by visual hallucination, where everything turned "white". She did not experience any pain. She was discharged without neurological deficit after six days of admission with cardiology follow up.

Discussion: CPRIC poses diagnostic dilemma during CPR, as it could be easily mistaken as ROSC. Besides, it may be distressing to healthcare providers to continue CPR on a "conscious" patient. These will lead to interruption of high-quality CPR, which reduce the chances of ROSC. Due to unfamiliarity with CPRIC, many do not aware of the need of chemical restraint via sedative agents. Midazolam and ketamine are amongst the recommended drugs according to the available guidelines and case reports.

Conclusion: Healthcare providers should be made aware of CPRIC. This topic should be considered as part of ALS curriculum in future. Besides, sedation is recommended during CPRIC to minimize interruption during resuscitation, thus optimising the chances of patient's survival.

Keywords: cardiopulmonary resuscitation (CPR), cardiopulmonary resuscitation-induced consciousness (CPRIC), sedative agent

010

PRE-HOSPITAL THROMBOLYSIS IN ST-ELEVATION MYOCARDIAL INFARCTION: KUALA KRAI FIRST EXPERIENCE

Muhammad Firdaus Mat Sedik[1], Muhammad Zulhilmi bin Arifin[1]

[1]*Emergency and Trauma Department, Hospital Sultan Ismail Petra, Kuala Krai, Kelantan*

Introduction: ST-elevation myocardial infarction (STEMI) is a serious condition causing heart muscle damage. Early diagnosis and treatment are crucial for improving patient outcomes. However, due to regionalization and lack of percutaneous coronary intervention (PCI) facilities in remote areas, transportation times to PCI centers are longer. The nearest PCI centers, HRPZII (143km) and HUSM (145km), are quite far from Chiku III Health Clinic. In such case, pre-hospital early thrombolysis (PHT) by primary health care team can help. This article discusses the first PHT for a STEMI patient in Kuala Krai.

Case: A 74-years-old gentleman with underlying IHD, experienced left sided chest pain and diagnosed with anterior STEMI (Killip 3). He was treated with IV Metalyse 7000u /35mg at Chiku III clinic, prior transferred to Emergency Department (ED) Hospital Sultan Ismail Petra. Upon arrival at ED, the symptoms resolving with ECG showed incomplete Right Bundle Branch Block. Patient was discharged 5 days later.

Discussion: PCI procedures are widely available in European countries, but in develeping countries, the service is limited in terms of qualified personnel and infrastructure. Hence, thrombolysis is a common alternative before transferring a patient to PCI-enabled hospitals. From 2011 to 2013, STEMI accounted for 50.8% of all ACS patients, with only 75% eligible for thrombolytic treatment and 9.4% for PCI. Late presentation at emergency departments and missed STEMI diagnosis were the primary reasons for ineligibility for revascularization. Early reperfusion is crucial for treating STEMI, as every 30 minutes delay increases the one-year mortality rate by 7.5%. Pre-hospital medical thrombolysis can help achieve the reperfusion door to balloon time target. Such in case series in 2021, 6 patients were reperfused (out of 9 patients recruited) after IV metalyse PHT, with 4 undergoing PCI at HRPZII. Thus, the benefit of PHT increases with hospital distance for STEMI patients.

Conclusion: PHT is definitely a way forward of managing STEMI for rural primary healthcare setting, without nearest capable PCI centre. This approach includes training of trainers, primary health care staffs, development of clear protocol of PHT, training and workshop, feasibility study, regular simulation and continously monitoring and quality assurance audit in the future.

Keywords: “KualaKrai” “Pre-Hospital Thrombolysis” “STEMI”

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

011

OLANZAPINE-INDUCED SYMPTOMATIC HYPONATREMIA AND DELAYED-ONSET RHABDOMYOLYSIS: A CASE REPORT

Ahmad Amyrull Alyff Imran[1], Muhammad Zulhilmi Arifin[1]

[1]*Emergency Department, Sultan Ismail Petra Hospital, Kuala Krai, Kelantan*

Introduction: Olanzapine is a thienobenzodiazepine classified as an atypical or second-generation antipsychotic agent. It is effectively use for the treatment bipolar disorder and schizophrenia. A known complication of olanzapine related to hyponatremia and rhabdomyolysis is rare but had been reported few times.

Case report: A 29-year-old man with schizophrenia was taking olanzapine 15mg daily. Presented to emergency department with altered mental status and episode of apyretic generalized tonic-clonic movement. Laboratory investigation revealed serum sodium of 113mmol/L, urine sodium of 57 mmol/L, serum osmolality of 235 mOsm/kg, urine osmolality of 285 mOsm/kg and high-level of creatinine kinase (CK) measured at 4056 U/L. On suspicion of olanzapine contribution to rhabdomyolysis, Olanzapine was withheld initially at emergency department level. Olanzapine-induced symptomatic hyponatremia and delayed-onset rhabdomyolysis was diagnosed at emergency department (ED) level. However, throughout the admission, olanzapine was restarted back by primary team. Patient was persistently being aggressive and agitated in ward, requiring sedation and physical restraint. Subsequently, termination of olanzapine was decided after CK level rise dramatically 123,440 U/L and was replaced with amisulpride 100mg PO. Following hydration, CK level decreasing and patient general condition improving markedly. He was discharged after four days treated as in patient.

Discussion: Adverse effect of olanzapine is mostly reversible but it's crucial to suspect and recognize them early, especially in psychiatric patients taking atypical antipsychotic medications. In this case, hyponatremia induced by olanzapine was likely due to syndrome of inappropriate antidiuretic hormone (SIADH) secretion. Explanation on rhabdomyolysis is however remain unclear. This case was relatable with another case report by Dr Jun Hua Bowen Lim who reported a patient who is stable and treated with olanzapine and subsequently developed acute delay rhabdomyolysis without any identifiable triggering factor. Both cases might be drug-related condition that triggered the presentation of the patient in emergency department setting.

Conclusion: Patient with a long-term use of olanzapine treatment, drug-induced hyponatremia secondary to SIADH and delay-onset rhabdomyolysis should be considered as a diagnosis. Regular blood monitoring might be required for early intervention. Early diagnosis with a correct timely intervention will improve and fasten the recovery of patient during inward management.

Keywords: Olanzapine, Delayed-onset rhabdomyolysis, SIADH

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

012

"ADIK, ARE YOU HUNGRY?"

Eva Suraya Shokri[1], Nur Aliza Arifin[1], Che Ros Abdullah[1]

[1]*Emergency and Trauma Department, Hospital Sultanah Nora Ismail, Batu Pahat, Johor, Malaysia*

Introduction: Malnutrition refers to deficiencies or excesses in nutrient intake as well as imbalance of essential nutrients or impaired nutrient utilization. In Malaysia, overnutrition has higher prevalence than undernutrition. Hence, we are more accustomed to overnutrition forgetting the fact that undernourished child still exists. Marasmus is one of the severe manifestations of acute protein-energy malnutrition due to total calorie insufficiency that leads to overt loss of adipose tissue and muscle which can result to systemic complications.

Case Description: A 4-year-old boy, term baby with background history of speech delay but defaulted follow up was brought to the emergency department (ED) by his mother with chief complaint of loose stool, vomiting 2 days and fever for 5 days. Upon arrival, noted child was very lethargic, cachexic with muscle wasting and febrile with temperature of 38.2 degrees Celsius. Child weighed only 6 kg. His airway was patent, but tachypnoeic. There were signs of dehydration and shock as evidenced by prolonged capillary refill time, poor skin turgor, cold peripheries, and low blood pressure. However, the child, instead of tachycardic, he was bradycardic. Venous blood gases revealed metabolic alkalosis. Blood investigations showed anaemia (Haemoglobin 8.5 g/L), hyponatremia (Sodium : 121 mmol/L) and severe hypokalaemia (Potassium : 1.3mmol/L). Patient was resuscitated together with paediatric team and subsequently admitted to PHDW. Unfortunately, patient deteriorated and passed away in the intensive care unit (ICU) with cause of death was sepsis with underlying severe malnutrition (Marasmus).

Discussion: This child came to ED already presented with complications. Marasmic child is susceptible to infections and prone to have gastrointestinal(GI) symptoms due to villous atrophy and loss of GI enzyme resulting to electrolyte imbalance. Child would also has thinning of the cardiac myofibrils and impairment in contractile ability causing reduced cardiac output with bradycardia.

Conclusion: Undernutrition child is less prevalence in Malaysia but still exist. They will not come saying they are undernutrition as a chief complaint but come with the complications instead. We must always be aware and ready to treat the patients accordingly and successfully.

Keywords: malnutrition, marasmus, undernutrition

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

013

POINT-OF-CARE SONOGRAPHY FOR INTERNAL ILIAC ARTERY ANEURYSM & ABDOMINAL AORTIC ANEURYSM IN EMERGENT SETTING

Darishah Hamzah[1], Nurkhairulnizam Abd. Halim[1], Muhamad Fakhurrazi Mohamad Bakri[1]

[1]*Emergency and Trauma Department, Hospital Tuanku Fauziah, Perlis, Malaysia*

Introduction: Internal iliac artery aneurysms (IIAA) are rare and not commonly diagnosed by bedside point-of-care ultrasound (POCUS) as it is usually found as incidental findings in computed tomographic (CT) imaging. IIAA are found to coexist with abdominal artery aneurysms (AAA) in around 40% of AAA patients. Contrarily, isolated iliac artery aneurysms are a rare entity, and the rate of them occurring is estimated to be between 0.4% and 1.9% of abdominal aneurysms.

Case Description: We present a case of 81-year-old gentleman with a long standing hypertension, complaining of non specific abdominal pain and difficulty passing motion for past few weeks. Otherwise, he had no fever or constitutional symptoms. Other pertinent medical history included dyslipidemia and left nephrectomy for renal cell carcinoma in 2008. He had multiple visit to private practice and was treated as constipation colic. Clinically, he was vitally stable with blood pressure 115/72mmHg and heart rate 86bpm. His abdomen was soft, non tender and periumbilical mass was palpable. Bedside ultrasound revealed an infrarenal AAA and thrombosed IIAA with a well demarcated false and true lumen. CT findings confirmed our initial POCUS suspicion which showed impending rupture infrarenal AAA measuring 4.9x5.8x8.4cm with left IIAA measuring 2.1x2.3x2.4cm. Case was referred to surgical team for further manageMent.

Discussion: Iliac artery aneurysms and AAA are often asymptomatic or misdiagnosed, which leads to rupture and catastrophic bleeding. Non specific abdominal pain in hypertensive elderly patient should warrant a clinician to have high index of suspicion, to rule out the most life threatening condition. In our patient, challenges faced due to patient history of renal pathology, masquerading of other differential diagnosis. It is also a rare case for IIAA without procedure or trauma related. POCUS is a rapid, accurate, and non-invasive diagnostic imaging modality for patients presenting with aortic pathology. Given its high sensitivity for identifying aneurysms, dissections, and intraluminal thrombus, POCUS is the ideal screening exam for emergent aortic pathology.

Conclusion: Early diagnosis by bedside POCUS in emergency setting will prompt immediate referral and treatment thus reducing the mortality and morbidity rate.

Keywords: Internal iliac artery, point-of-care ultrasound (POCUS), aneurysm

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

014

THE DEADLY STEMI MIMICS: DISTINGUISHING TAKOTSUBO CARDIOMYOPATHY FROM ANTERIOR STEMI IN A LONELY LADY IN ELDERLY HOME.

Nik Shaheeda M.[1], Muhammad Khidir Mohd Kamil.[1]

[1]*Emergency and Trauma Department, Teluk Intan Hospital, Perak*

Introduction: Takotsubo cardiomyopathy (TC) is a rare clinical syndrome manifested by transient left ventricular dysfunction without occlusive coronary arteries, or elevation of cardiac troponin which is usually associated with a stressor. The clinical features and echocardiogram (ECG) changes in TC may mimic ST elevation myocardial infarction (STEMI).

Case Description: An 84-year-old woman with history of hypertension, dyslipidaemia brought to emergency department after she was found unconscious and appeared dyspnoeic. She was lonely for the past eight months she spent in nursing home. Upon arrival, she was tachypnoeic, oxygen saturation was 96% in 15 Litre/min non-rebreather mask. Her Glasgow Coma Scale (GCS) was E2V1M1. She had reduced air entry over right lung. An ECG revealed ST elevations in V2 to V6, without reciprocal changes, with ST depression in aVR. Chest X-ray showed consolidation over right middle zone. Cardiac point-of-care ultrasound (POCUS) demonstrated depressed ejection fraction of 31%, hypokinesis of mid ventricular to apical wall with normal motion of basal segments, and apical segment ballooning. Troponin-I level was 25 ng/L. Her blood sugar level was 2.8 mmol/L. She was treated for pneumonia and hypoglycaemia, but her mental status did not improve. Despite treatment, the patient died due to sepsis.

Discussion: Distinguishing TC from anterior STEMI is crucial due to differences in pathophysiology and treatment strategy, especially in acute phase. Both presented with similar clinical and ECG findings however, studies have tried to elucidate the distinctions. The main ECG characteristics of TC include ST depression in aVR > 0.5 mm, ST elevation in VI ≤ 1 mm, frontal plane ST-vector 60°, QT prolongation, no reciprocal ST depression, and reversible Q waves. Typical echocardiography for TC includes apical hypokinesis and basal hyperkinesis, but other variations have also been reported. In midventricular TC, there is akinesis of only mid-ventricular segment with or without hyperkinesis of apical and basal ventricular segments.

Conclusion: Clinical acuity, together with ECG or cardiac POCUS assessments, can be used to direct the physician towards the diagnosis of TC. However, it is important to differentiate TC from anterior STEMI, and when in doubt, cardiac angiography should be pursued.

Keywords: STEMI mimics, Takotsubo cardiomyopathy

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

015

PRIMARY ADRENAL INSUFFICIENCY: THE RARE ENCOUNTER

Siti Murni Fitri bin Mohd Shukor[1], Hashim Embong[1]

[1]*Emergency Department, Hospital Canselor Tuanku Muhriz, Kuala Lumpur, Malaysia*

Introduction: Primary adrenal insufficiency (PAI), also known as Addison's disease, is a condition characterised by the inadequate production of adrenal hormones due to dysfunction or destruction of the adrenal cortex. The causes of PAI are autoimmune adrenalitis, tuberculosis or fungal infections, and congenital adrenal hyperplasia. Although it is rare, PAI could also be manifested as a complication of antiphospholipid syndrome (APS).

Case Description: We report a case of a 37-year-old Malay gentleman with no history of illness who was involved in a motor vehicle accident and sustained a left middle phalanx 5th finger chip fracture done K-wire insertion in a private hospital and was discharged well. Since then, he had poor appetite and nausea. His vital signs showed hypotension, tachycardic, and afebrile with normal oxygen saturation. Despite adequate hydration and no excessive losses from the body, his blood pressure remains borderline low, with hyponatraemia (118mmol/L), hyperkalaemia (5.7mmol/L) and random blood glucose of 5.1mmol/L. The morning serum cortisol level was low (91nmol/L). The CECT abdomen revealed a bilateral adrenal haemorrhage. He also developed left-hand gangrene, likely secondary to newly diagnosed anti-phospholipid syndrome. He had undergone left distal 3rd trans-radial amputation and was discharged with oral corticosteroids.

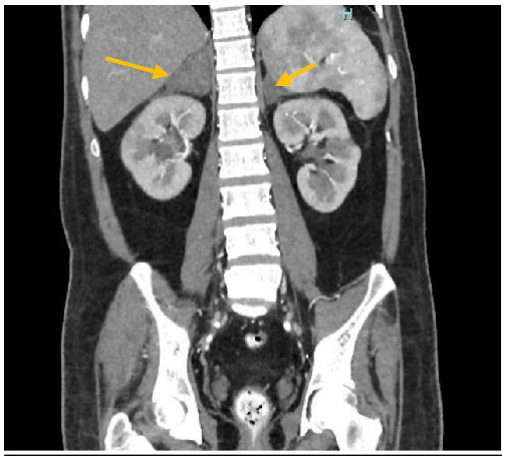

Figure 1: CECT abdomen bilateral adrenal haemorrhage

The yellow arrow shows enlarged bilateral adrenal glands with mixed hypo- to hyperdense content, likely representing bilateral adrenal haemorrhages.

Discussion: Bilateral adrenal haemorrhage developed most probably due to anti-phospholipid syndrome (APS). A common hypothesis is that adrenal vein thrombosis could occur when the transition from the arterial to the capillary system is so abrupt that it constitutes a "vascular dam," which causes the accumulation and stasis of blood in the hypercoagulable state of primary APS. Only 0.4% of patients with APS develop PAI over a follow-up period of 5 years. When catastrophic APS occurs, adrenal insufficiency frequency rises to 10–26%. The mortality rate of patients with APS complicated by adrenal insufficiency is 3.81%, a relatively high percentage given their young age.

Conclusions: PAI can be the first manifestation or may develop later during APS. Due to its insidious onset and non-specific symptoms, physicians may overlook PAI, which leads to delayed diagnosis and treatment.

Keywords: Primary adrenal insufficiency, Addison's disease, anti-phospholipid syndrome

016

"BABY SHOCK DU, DU, DU…"

A CASE OF A CHILD WITH UNSTABLE ATRIAL FIBRILLATION

Hud Azzaki Zainal[1], Jasmine Anthonysam[1] Vengkata Prathap[1]

[1]*Jabatan Kecemasan dan Trauma, Hospital Banting, Selangor*

Introduction: Atrial fibrillation in children is uncommon in absence of cardiac pathology. Child with AF commonly presented with lethargy, rapid breathing, poor oral intake and less active. These presentations may be masked with sepsis or lung infections if proper history and examination was not done.

Case Presentation: 5-month-old baby presented with rapid breathing, reduced oral intake and less active. Mother denies any cough, fever or runny nose nor GI symptoms. Child had no significant paediatric history and no history of hospitalization.

Child was lethargic with respiratory rate of 65/min. Pulse volume good but irregular. Lungs clear but heartbeat was fast and irregular with SPO2 99% under room air. ECG showed heart rate 204 bpm, irregular rhythm with narrow complexes. HFM 15Lmin was given and referred to Paediatric team.

Case was discussed with Paediatric Cardiology Serdang and decided for IV Adenosine x2 but not responsive. Hemodynamically was unstable thus proceeded with synchronized cardioverted twice but atrial fibrillation still persistent. Child was then intubated, stabilized and was started on IVI amiodarone. Subsequently, he was transferred to PICU HTAR.

Discussion: Children with tachyarrhythmias may present with less active, lethargy, poor oral intake, palpitation, chest pain and rapid breathing. The incidence of AF in paediatrics is rare (prevalence <0.05% prior to the age of 30) Isolated AF, in the absence of underlying cardiovascular disease, represents less than 5% of all cases of AF.

Vital signs in children are different according to age. Each age group have different range of vitals sign according to age. Management of child with tachyarrhythmias depends on hemodynamically stability of the patient. Synchronized cardioversion (0.5-1j/kg) are done with hemodynamically unstable patient. stable patient can be treated with vagal manoeuvres, adenosine (0.1-0.5mg/kg) and ice pack compression. Amiodarone may be given if persistent tachyarrhythmia.

Conclusion: Detailed assessment is required in paediatric patients to ensure actual pathology was not missed. Understanding normal range of vital signs in different age groups are important. AF in children caused by multiple factors but lone AF in children is rare. Cardioversion in children is due if child is hemodynamically unstable.

Keywords: Atrial fibrillation, Paediatrics, Synchronized cardioversion

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

017

UNMASKING A HEMIFACIAL SWELLING : HEREDITARY ANGIOEDEMA

Maalini, Ponnu Swomy[1], Ahmad Zulkarnain, bin Ahmad Zahedi[1]

[1]*University Malaya Medical Centre, Malaysia*

Angioedemas are common causes for emergency department admissions, requiring knowledge of their etiology and management by healthcare providers in these settings. Hereditary angioedema (HAE) is a rare yet potentially life-threatening condition, often underdiagnosed, marked by recurrent bouts of swelling affecting different areas of the body, including the skin, gastrointestinal tract, and airways. These episodes can cause intense discomfort, functional limitations, and in severe cases, respiratory compromise.

The case on discussion was a pregnant 32-year-old female with no known medical illness and no known drug or food allergy presents with right-sided unilateral facial swelling since morning. She only complained of a tightening sensation over the right side of her face. A trial of T.Cetrizine, IV Hydrocortisone and IV Adrenaline did not help the patient. The patient did not develop any airway, breathing, or circulatory compromise throughout her 3 days of admission to the hospital. The patient was on regular IV hydrocortisone and Tab.Piriton during the admission. The facial swelling eventually subsided and the patient was discharged well.

HAE results from deficiency or dysfunction of C1-inhibitor(C1-INH) leads to unchecked activation of the complement system, which leads to overproduction of bradykinin. HAE attacks are transient, typically lasting two to five days, with manifestations ranging from cutaneous swelling to life-threatening upper airway edema. Common triggers include stress, hormonal changes, infections, and certain medications e.g ACE inhibitors. Response to treatment with antihistamines, corticosteroids, and epinephrine may distinguish histamine- and bradykinin-mediated angioedema.

The management of HAE patient should prioritize the standard airway, breathing, and circulation interventions as C1-INH concentrates or recombinants are generally not available in Malaysian emergency departments. Alternatively, fresh frozen plasma has been used to treat HAE in cases where first line therapies are not available. Although its use is controversial, Tranexamic Acid is also used acutely and prophylactically to treat HAE.

For optimal treatment and care, it is crucial to ascertain whether angioedema is histamine- or bradykinin-mediated. Given the absence of a dependable point-of-care test for distinguishing between these two pathophysiologies, emergency department physicians should acquaint themselves with existing indicators to guide treatment strategies effectively.

Keywords: hereditary angioedema, C1-inhibitor

018

MANAGING INTRACRANIAL BLEEDING IN DENGUE FEVER: THERAPEUTIC PLATELET TRANSFUSION FOR A RARE YET LETHAL COMPLICATION

Fatin Izzati Mohammed Azmi[1], Salha Mohd Fadil[1], Abdul Rasyid Ariffien[1], Ahmad Asraff Azman[1], Abdul Muhaimin Noor Azhar[1]

[1]*University Malaya Medical Centre, Kuala Lumpur, Malaysia*

Introduction: Dengue Fever, transmitted by Aedes aegypti mosquitoes, poses a significant health threat in Malaysia, with varying severity from mild febrile illness to life-threatening complications known as “Severe Dengue” including plasma leakage, haemorrhage, and organ impairment. Out of the various dengue complications, neurological manifestations are quite rare, and intracranial haemorrhage (ICH) constitutes less than 1% of these cases, leading to a rare but potentially fatal outcome.

Case Description: A 69-year-old man, initially diagnosed with heat stroke after being found unconscious in his car on a bright day (temperature 42’ Celsius) was later identified with acute right subdural haemorrhage (SDH). His thrombocytopenia (platelet 33 x 10^1/L) raised a suspicion of dengue fever which subsequently confirmed with dengue NS1, leading to a revised diagnosis of severe dengue fever with warning signs, complicated with bleeding (SDH) and leaking (pericardial and pleural effusion), not in shock. The decision for fluid administration (crystalloid/colloid versus packed red cell) for his “bleaking” was complex due to the absence of shock and stable haemoglobin (14.3 g/L) and haematocrit (44%) levels. Following a treatment dilemma, he ultimately received platelet transfusion for therapeutic measures.

Discussion: Severe Dengue Fever can lead to hemodynamic instability due to plasma leakage ("leaking"), haemorrhage ("bleeding"), or both ("bleaking"). While fluid administration is crucial for leaking patients and packed red cell transfusion for bleeding condition, platelet transfusion is typically reserved for prophylactic pre-procedural scenarios. In this case, the patient's "bleaking" condition prompted a collective decision for platelet transfusion as a therapeutic measure, as his ICH could progress to brain herniation. Dengue-associated ICH occurs due to concurrent vasculopathy and thrombocytopenia and can rapidly damage his brain. As his hemodynamic status was stable (not in shock), platelets played a therapeutic role in preventing the expansion of the hematoma to salvage his brain.

Conclusion: Dengue-associated ICH is a rare neurological complication and can lead to potentially fatal outcomes. Non-traumatic ICH in patients with thrombocytopenia should raise a high suspicion of dengue. A prompt diagnosis may significantly assist in decision-making regarding fluid administration, warranting therapeutic platelet transfusion to salvage the patient's neurological condition.

Keywords: Dengue-associated Intracranial Haemorrhage, Thrombocytopenia, Platelet transfusion

019

KOUNIS SYNDROME: ACUTE MYOCARDIAL INFARCTION FOLLOWING MULTIPLE HORNET STINGS

SJ Nurul[1], KS Amrita[2]

[1]*Emergency Department, Hospital Baling, Malaysia*

[2]*Emergency Department, Hospital Kulim, Malaysia*

Introduction: Kounis syndrome, an acute coronary syndrome triggered by allergies, affects around 3.4% of allergy patients seen in emergency departments.

Case Description: A 78-year-old gentleman, a smoker with underlying hypertension, presented to our facility experiencing dyspnoea and compressive chest pain following multiple hornet stings on his left arm. Upon assessment, he was conscious and alert, with a pulse rate of 50 beats/min, blood pressure of 54/41 mmHg, respiratory rate of 16 per minute, and oxygen saturation of 98% on room air. Lung examination revealed clear sounds, and no murmurs were detected. His 12-lead electrocardiogram (ECG) exhibited ST elevation in inferior leads with reciprocal changes and signs of right ventricular involvement. Elevated cardiac enzymes were noted, including a creatine kinase level of 1324 U/L, aspartate aminotransferase (AST) of 198 U/L, and lactate dehydrogenase (LDH) of 407 U/L. The initial treatment included adrenaline (0.5mg IM), hydrocortisone (200mg IV), chlorphenamine (10mg IV), and fentanyl (50mcg IV). Despite these interventions, the patient's chest pain persisted, necessitating thrombolysis. Following consultation with a cardiologist, anti-anginal medications were maintained, taking into account the patient's risk factors for coronary artery disease.

Discussion: Kounis syndrome manifests as an acute coronary syndrome triggered by allergic reactions, occurring in three types: type 1 in patients with normal coronary arteries, type 2 in those with pre-existing coronary atherovascular disease, and type 3 following stent implantation, all linked to mast cell activation. Diagnosis relies on clinical signs, laboratory findings, ECG, echocardiogram, and coronary angiography, though these resources may be limited in district hospitals. Management poses challenges as it necessitates revascularization alongside addressing anaphylactic reactions. In our case, the patient presented with angina and ST-T changes on ECG, with markedly elevated cardiac enzymes, warranting a diagnosis of acute STEMI. Corticosteroids and antihistamines can mitigate inflammation, but caution is advised with epinephrine use due to its potential to exacerbate ischemia.

Conclusion: The prognosis of Kounis syndrome is generally favorable. Hence, early recognition of this syndrome is crucial, relying on clinical signs, ECG changes, and laboratory findings, despite coronary angiography being the gold standard test.

Keywords: Kounis syndrome, allergic

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

020

EVISCERATION WOUND: RACE AGAINST TIME

N. NF Fatimah[1], Narong Reed A/L Prem[2], M. Rajaratnam[1]

[1] *Emergency and Trauma Hospital Tengku Ampuan Rahimah Klang Selangor Malaysia*

[2] *Emergency and Trauma Hospital Tuanku Fauziah Kangar Perlis Malaysia*

Introduction: Evisceration wounds refer to the protrusion of internal organs, usually the intestines, through a wound in the abdominal wall. Prompt medical care is crucial for stabilising the patient, maintaining organ function, and enhancing overall results. Promptly managing these injuries is crucial for averting serious consequences and ensuring optimal patient recovery.

Case Report: We received a 21 years male patient with alleged stab wound with unsure mechanism from our PHC team. Upon arrival to ED, we noted that the patient had bowel evisceration from his abdomen. His GCS was 10/15 (E3V3M4) upon reassessment at red zone. Vital signs showed BP: 84/36, P: 137, SPO2: 91% RA, RR: 24 upon arrival. The patient was intubated under RSI for airway protection and was sedated under IVI Midafentanyl. Upon bedside scan showed free fluid over Morrison's pouch and splenorenal recess. The patient was having class III hypovolemic shock, so fluid resuscitation was initiated while waiting for blood transfusion. After 3 bags of Safe O was given to the patient, massive transfusion protocol (MTP) was activated. Further assessment found that blood was spurting out from the deep laceration wound at the abdomen which turned out from mesenteric vessel. Haemostatic suture has been done over eviscerated small bowel and mesenteric artery at ED. The eviscerated large and small bowel was covered with plastic bag post haemostatic suture. This case was referred and handed over surgical team for exploratory laparotomy KIV bowel resection.

Discussion: Evisceration wounds, characterised by the protrusion of internal organs through a major abdominal injury, provide substantial risks of infection and additional harm to the organs. Prompt intervention is essential to avert contamination and minimise consequences. Prompt intervention, which involves the application of sterile, damp bandages and immediate medical care, aids in stabilising the patient and protecting essential bodily functions.

Conclusion / Learning Point: An evisceration wound occurs when internal organs protrude via a major injury to the abdomen. Prompt medical care is essential to avert infection, organ impairment, and other problems. Timely surgical intervention and comprehensive supportive measures are crucial for achieving recovery and minimising the possibility for life-threatening complications.

Keywords: evisceration, massive transfusion protocol

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

021

IMPORTANCE OF CNS EXAMINATION IN SPINAL CORD INJURY

N. NF Fatimah[1], Narong Reed A/L Prem[2], M. Rajaratnam[1]

[1] *Emergency and Trauma Hospital Tengku Ampuan Rahimah Klang Selangor Malaysia*

[2] *Emergency and Trauma Hospital Tuanku Fauziah Kangar Perlis Malaysia*

Introduction: A traumatic spinal cord injury (SCI) occurs when the spinal cord is harmed as a result of events like vehicle accidents, falls, sports injuries, or acts of violence. This damage impairs the transmission of signals between the brain and the body, resulting in a partial or total loss of motor control, sensation, and autonomic functions below the location of the injury.

Case Report: We received a 62 years Indian male patient with underlying CVA. He complained of severe back pain after involved in alleged MVA (MB vs CAR) with unsure MOI. Upon arrival, his vital signs were BP: 136/78, PR: 74, SPO2: 98% RA, RR: 18, PS: 5/10 and GCS: 15/15 with good pulse volume, warm peripheries and CRT <2 seconds. This patient was triaged to yellow zone. Upon assessment, he was unable to move B/L LL and pain over cervical and right shoulder. The patient also stated the reduce of sensation from T10 and below and his anal tone was lax. He was then up triaged to red zone. His bedside scan was normal with no free fluid. This patient was put on cervical collar and IVD NS 1 pint over 1 hour. IV Tramal 50mg STAT was given for analgesic with IV Maxolon 10mg STAT and IV Dexamethasone 8mg STAT. He was then sent for CT brain and cervical, and for chest, thoracolumbar and lumbosacral x-ray. X-ray result came out with the finding of compression fractures over T12-L1 and L4-L5 and there was no evidence of ICB for his CT brain. This patient was treated as spinal cord injury TRO Cauda Equina Syndrome. This case was then referred to orthopaedic team to their expertise.

Discussion: Timely identification of SCI is essential for efficient treatment and enhanced results. Timely diagnosis enables prompt measures, such as stabilisation, administration of anti-inflammatory medicine, and early surgical interventions, which can help prevent additional harm. Identifying a condition at an early stage also allows for more effective preparation for extended medical assistance, maximising the chances of recuperation, and enhancing the general well-being of the individual.

Conclusion / Learning Point: Timely identification and treatment can greatly improve the preservation of neurological function, leading to a more favourable recovery and enhanced quality of life for persons affected by the condition.

Keywords: dexamethasone, spinal cord, Cauda Equina Syndrome

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

022

PULMONARY TUBERCULOSIS PATIENT PRESENTING WITH ACUTE RESPIRATORY DISTRESS SYNDROME

Mohd Najib Bin Ahmad Helmi[1], Syed Muhammad Syed Ali[1]

[1]*Emergency Department, Hospital Canselor Tunku Mukhriz UKM, Kuala Lumpur, Malaysia*

Introduction: Tuberculosis (TB) continues to be a significant burden to healthcare in Malaysia and a disease of public health importance due to its nature of delayed presentation and severe illness. Malaysia is classified as intermediate TB burden country with a notification rate of<100 cases per 100,00 population. TB can be presented with varying manifestation. Acute respiratory distress syndrome (ARDS) is a rare complication of the clinical course of TB but carries a high mortality rate of approaching 60%. Clinician should keep high suspicion index for TB in the setting of ARDS since early treatment of empiric anti-TB reduce mortality.

Clinical Presentation: We present a case of 62-year-old Chinese gentleman presented with severe respiratory infection progressing to ARDS secondary to pulmonary tuberculosis (PTB) and requiring prolonged mechanical ventilation.

Discussion: Patient with PTB can presented with varying manifestation and severe pneumonia with ARDS can be one of the presentation. In regions were TB is still common, physician should have high index of suspicion especially when patient had risk factors predisposing to mycobacterial infection.

Conclusion: The initiation of anti-TB early could potentially reduce mortality in patient with TB- ARDS. Further prospective studies and research are necessary to asses the different clinical characteristic in patient with TB complicated with ARDS as well as the best treatment can be given.

Keywords: spontaneous pneumothorax, myocardial infarct, myocardial ischemia

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

023

MURDER IN MY MIND

Mohd Najib Bin Ahmad Helmi[1], Syed Muhammad Syed Ali[1]

[1]*Emergency Department, Hospital Canselor Tunku Mukhriz UKM, Kuala Lumpur, Malaysia*

Introduction: Neck trauma is a relatively uncommon presentation of traumatic injuries but it is associated with high morbidity and mortality if left untreated immediately. The mortality associated with neck injury is up to 10% predominantly penetrating neck injury with vascular injuries. Almost a quarter of of penetrating neck injury may have carotid artery injury involvement. The most prevalent causes of neck trauma include motor vehicle accident, stab wounds, gunshot wounds, machinery injury, falls, assault and self-inflicted in suicide. Neck trauma can be categorized into penetrating neck injury (PNI), blunt neck trauma and strangulation. Both penetrating and blunt neck trauma can present with minimal to no symptoms initially, a high index of suspicion is therefore required.

Clinical Presentation: A 26 year old Sri Lankan with no known medical illness allegedly commit suicide by slashing his own throat, stab his abdomen and left wrist using kitchen knife. He presented to emergency department with a large open neck wound and a transected trachea and requiring a tracheal tube insertion. Despite the large neck laceration wound, he appears to be stable hemodynamically. He was taken to operation theatre and surgery was performed for neck exploration and refashioning.

Discussion: Penetrating neck injury is an aerodigestive and vascular injury high risk zone, the approach to PNI mandates a careful assessment and guided by hard and soft signs. Zonal approach to PNI was an outdated concept of approach and a new ‘no zone approach’ increase detection of vascular and pharyngoesophageal injury with reduce negative rate of surgical exploration.

Conclusion: Neck is relatively open structures with lack of protection, injuries to the neck should be carefully assessed by emergency clinician. Approach to neck injuries is guided by hemodynamically stability plus hard and soft signs. No zonal approach is a contemporary method against the zonal approach management and further research, consensus is warranted to continue providing the best clinical evidence for patient with penetrating neck injuries.

Keywords: penetrating neck injury, neck trauma

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

024

ACUTE MYOCARDIAL INFARCTION MIMICKING SPONTANEOUS PNEUMOTHORAX

Najib Helmi[1], Syed Muhammad Syed Ali[1]

[1]*Emergency and Trauma Department, Hospital Canselor Tunku Mukhriz, Kuala Lumpur, Malaysia*

Introduction: Respiratory distress is a common presenting symptom that mandate patient visit to emergency department. There is extensive list of diagnosis that precipitate respiratory distress and emergency provider should rule out the life-threatening causes of dyspnea. Among the life-threatening causes presented with acute respiratory distress is pneumothorax and myocardial infarction.

Clinical Presentation: We present a case of elderly woman presented with complaint of shortness of breath with secondary spontaneous pneumothorax with and electrocardiogram changes of ST elevation suggesting of myocardial infarction. She was given thrombolysis and subsequently chest drain insertion. After chest drain insertion, there was resolution of ST segment elevation.

Discussion: A number of pathology can produce ECG changes that can mimic acute myocardial infarction and there are many cases of initial wrong diagnosis of acute myocardial infarction.

Pneumothorax, may precipitate an acute myocardial infarction.

Conclusion: We encountered a case of spontaneous secondary pneumothorax with end organ injury which was myocardial ischemia evidence by ECG changes. Both are life threatening diseases which need to manage urgently. Rarely but occasionally multiple life threatening diseases presenting with similar signs and symptoms. Emergency physician should be aware of this rare occasion when we encounter patient in daily practice.

Keywords: spontaneous pneumothorax, myocardial infarct, myocardial ischemia

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

025

DRAIN TO BRAIN

Nur Adilah Soddri[1], Muhammad Naeem Ali[1], Amrita Kaur Seera A/P Harapajan Singh[1], Mohd Shahir Mohd Hassan[1], Siti Norafida Adanan[1]

[1]*Emergency Department, Hospital Kulim, Kedah, Malaysia*

Introduction: We describe a case series of 2 cases to highlight the atypical presentation of patients leading to a diagnosis of an intracranial pathology

Case Description: A 34-year-old male with no medical illness presented with a history of fever and gastrointestinal losses for 2 days after taking outside food. Examination and blood investigation suggestive of acute gastroenteritis. Patient improved after hydration and antibiotics however had an episode of syncopal attack, followed by an episode of fit and facial asymmetry which led to further investigation with a plain CT brain. The CT revealed an acute intraparenchymal haemorrhage of right posterior parietal extending to right occipital with mass effect and midline shift. Patient was referred to the neurosurgical team for further management. Diagnosis of parietooccipital astrocytoma was given from histopathology report. Patient underwent decompressive surgery and tumour excision. Patient recovered well.

A 15 years old Malay girl was brought to the ED complaining of multiple episodes of vomiting and diarrhoea leading to a syncopal episode after consuming a burger that was purchased from a food stall. Upon assessment she was hypotensive and demonstrating decerebrate posturing. Her blood sugar was normal and she was afebrile. Physical examinations were unremarkable for any sign of head injury, basilar skull fracture, meningism, sign of toxidrome or any obvious focal lateralizing sign. CT brain demonstrated acute left thalamic haemorrhage with intraventricular extension. Further imaging revealed left thalamic arteriovenous malformation. No significant abnormalities were identified in her blood investigation. She was transferred to a tertiary centre for External Ventricular Drain (EVD). Unfortunately, her condition continued to deteriorate and she succumbed to death.

Discussion: While typical signs and symptoms of raised intracranial pressure are prevalent among most patients with intracranial pathology, there remains a notable gap in medical literature concerning descriptions of atypical presentations. Particularly, cases where patients initially present with symptoms suggestive of gastroenteritis but are later diagnosed with intracranial pathology are scarcely documented

Conclusion: If clinical evaluation doesn't strongly indicate gastroenteritis, consider a broader range of diagnoses, including intracranial pathology. These patients should be observed longer in the ED and undergo further evaluation.

Keywords: Atypical, Intracranial, Gastroenteritis

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

026

NEUROLOGICAL NIGHTMARE: THE DANGERS OF ACYCLOVIR

Ahmad Sayuti Jamal Abidi[1], Mohd Hisham Isa[1]

[1]*Department of Emergency Medicine, Hospital Canselor Tuanku Muhriz, UKM KL Campus, Jalan Yaacob Latif, 56000 Cheras, Kuala Lumpur*

Introduction: Acyclovir is a widely used antiviral medication effective against herpes simplex and varicella-zoster infections. While generally safe, its use in patients with renal insufficiency, particularly those with end-stage kidney failure, can lead to neurotoxic side effects due to the accumulation of the drug and its metabolites. In patients with renal failure, neurotoxic side effects may occur 24 to 48 hours following the administration of drugs. Early detection of acyclovir neurotoxicity improves the patient's prognosis. Discontinuation of the medication and consider hemodialysis to remove the drug's effects.

Case Description: We report a case of a 57-year-old lady with underlying end-stage renal failure who initially presented to a clinic with an oral mucosa lesion and received a diagnosis of Herpes Labialis. She was then prescribed T. Acyclovir 200 mg five times daily, along with Acyclovir cream. Subsequently, two days later, she presented to the Emergency Department (ED) complaining of bilateral upper limb cramping, unsteady walking, myoclonic movement of the bilateral upper limb, difficulty holding objects, slurring of speech, and an unsteady gait. Upon examination, the patient′s vital signs were stable, prompting a relevant blood investigation that revealed no abnormalities. A plain CT brain scan was then performed to rule out a cerebrovascular accident, which was reported as normal. Based on her history, clinical examination, and relevant investigation, all contributed to the diagnosis of acyclovir-induced neurotoxicity. The patient was then admitted to the ward and started on regular hemodialysis. She was soon discharged well with no remaining neurological symptoms.

Discussion: Acyclovir-induced neurotoxicity, although rare, is a significant risk in patients with severe renal impairment, such as those with end-stage renal failure. The drug and its metabolites accumulate due to reduced renal clearance, leading to neurotoxic effects. Symptoms can range from mild confusion to severe encephalopathy, including agitation and hallucinations. Early recognition, dose adjustment, and enhanced clearance through dialysis are essential for effective management.

Conclusion: This case highlights the importance of taking into consideration acyclovir-induced neurotoxicity in individuals with kidney failure who experience sudden neurological symptoms. Adherence to the proper dosage and closely monitoring kidney function help prevent these side effects.

027

"CHEST PAIN CONUNDRUM: A CASE REPORT ON SYSTOLIC ANTERIOR MOTION OF THE MITRAL VALVE LEAFLET IN A NON-HYPERTROPHIC CARDIOMYOPATHY PATIENT"

Muhammad Harith Hazmi Zaini[1], Mhd Nazrul Fitri Mhd Nizar[1], Grace L.W.C. [1]

[1]*Emergency and Trauma Department, Hospital Sultanah Maliha, Langkawi, Kedah.*

Introduction: SAM, or systolic anterior motion of the mitral valve, is a well-documented phenomenon associated with left ventricular outflow tract obstruction and hemodynamic compromise. This Condition can manifest in patients regardless of the presence of hypertrophic cardiomyopathy or not.

Case Presentation: 22 Years Old, Gentleman with known case of hyperthyroidism presented to our casualty with Left Sided and Central Chest pain Since past 4 days. He described it as heaviness in nature and non- radiating and occur at rest. It Associated with Fever for 1 day and a productive cough for the past 1 weeks. Initial Vital sign was normal. On auscultation, there was a loud pansystolic murmur with splitting of second heart sound best heard at left parasternal edge. ECG Showed ST elevation at lead 11, V2, V3 with PR depression at Lead 11 and AVF. Bedside ECHO done and noted systolic anterior motion of mitral valve with hyperdynamic and good cardiac contractility, No thickening Left Ventricle. IV Drip 4 pint NS over 24 hour was started. Repeated Formal echo on day 2 of admission showed Trivial MR with mitral in flow normal in pattern.

Discussion: The occurrence of this phenomenon has been described in older patients, but it is unusual in a young patient without evidence of HCM and has not been previously reported in the literature. Once identified, treatment consists of maintaining adequate preload through volume resuscitation. Patients also benefit from increased diastolic filling time from the negative chronotropic effect of beta blockers.

In cases in which there is a significant hemodynamic compromise, volume resuscitation is the preferred therapy over vasopressors to avoid further worsening of gradients. This highlights the importance of urgent imaging and the identification of SAM in its contribution to LVOT obstruction in appropriate resuscitative management.

Conclusion: It is important to recognize the clinical manifestations of SAM and its role in maintaining an appropriate hemodynamic status. A hyperdynamic ventricle with reduced diastolic filling time and reduced preload predisposes to SAM. Echocardiography and cardiac MRI are great modalities to diagnose this phenomenon.

Keywords: SAM, Murmur, chest pain

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

028

THE CLINICAL CASE REPORT: CASE OF TRAUMATIC BLUNT THORACIC AORTIC INJURY.

Wan Noorulfaten Azreen Wan Hussin[1], Mohd Johar Jaafar[1], Dharmendra Ganasagaran[2]

[1]*Department of Emergency Medicine, Hospital Canselor Tuanku Muhriz (HCTM), Wilayah Persekutuan Kuala Lumpur, Malaysia.*

[2]*Department of Surgical, Hospital Sultanah Aminah , Johor, Malaysia*

Introduction: Blunt thoracic aortic injury (BTAI) is the second leading cause of death in trauma. The mechanism includes rapid deceleration, either from a high-velocity impact or a fall from a significant height.

Case report: A- 44-year old gentleman without comorbidities involved in an alleged motor vehicle accident involving motorbike and Hilux. He sustained polytrauma involving head and chest besides eye injury, abrasion wound and pain over the left chest and left knee. He went to the private hospital before was sent over to Hospital Sultanah Aminah. Primary survey was clear and extended fast was negative. Haemodynamically he was stable with BP of 103/79mmHg, HR86 bpm and saturation of 99%. The Hb level was 10.6g/dL. There are fractures of the 1st, 2nd , and 11 left rib with minimal haemothorax on the chest radiograph. Pelvis radiograph shows fracture of the left posterior acetabular wall. CT brain shows a right frontal extradural haemorrhage with facial bone fractures and from the CT thorax, he sustained blunt thoracic vascular injury with pseudoaneurysm of the proximal aorta with mediastinal haematoma. He was managed by emergency, trauma and orthopaedic team and discharged well after 7 days.

Discussion: Blunt thoracic aortic injury (BTAI) is a serious condition that can rapidly lead to death. The approach for traumatic chest pain is to look for life-threatening conditions in the primary and secondary survey. Clinically, patients may present with bilateral hyposphygmia of femoral pulses, arrhythmia, hypotension and tachycardia. Chest radiograph may shows widened mediastinum, indistinct aortic knuckle, apical cap, left pleural effusion, tracheal deviation and rib fractures. A normal chest radiograph does not exclude BTAI due to their low sensitivity. CT angiography is the gold standard for the diagnosis. ECG gated computed tomography angiogram and trans-oesophageal echocardiography are an alternative imaging. The clinical presentation, hemodynamic status, and the grade of aortic injury are the determinants of the treatment. Definitive treatment includes endovascular stenting, open surgery, and conservative management are an option.

Conclusion: BTAI is the serious condition that can lead to death but it commonly missed in emergency department. Thus a high index of suspicion are crucial in managing traumatic chest injury patients.

Keywords: Blunt traumatic aortic injury, chest injury, widened mediastinum

029

DOCTOR, MY HEAD IS KILLING ME: A CASE OF NASOPHARYNGEAL MASS WITH MULTIPLE CRANIAL NERVE INVOLVEMENT

Nur Farah `Aqilah Sabdin[1], Ismawati Ismail[1], Intan Masturah Che Ghani[1], Noor Hafiz Noor Din[2]
1Emergency & Trauma Department, Hospital Sultan Zainal Abidin, Kuala Nerus, Terengganu
2Otorhinolaryngology Department, Hospital Sultan Zainal Abidin, Kuala Nerus, Terengganu

Introduction: Nasopharyngeal Carcinoma (NPC) is Malaysia's top five most common cancers in which most individuals present with nasal symptoms. We present a case whereby frontal headache and visual symptoms have initially masked the correct diagnosis.

Case Description: A 42-year-old Malay lady presented to Emergency Department with a complaint of severe unilateral left-sided frontal headache for five days associated with bilateral throbbing eye pain, blurring of vision, and photophobia. She also had left facial numbness for one month but denied any nasal or aural symptoms. Cranial nerves examination revealed reduced left eye visual acuity (6/24) with dilated pupil. There was reduced sensation for the ophthalmic and maxillary branch of the trigeminal nerve with the presence of left lateral rectus palsy. Urgent non-contrast Computed Tomography (CT) brain demonstrated no abnormality. The patient was referred to the Ophthalmology and Otorhinolaryngology team. During admission, CT Venography was done and reported as the presence of a left cavernous sinus mass. Meanwhile, the patient was also noted developing vestibulocochlear nerve palsy as evidenced by left mixed hearing loss through a pure tone audiometry test. Nasoendoscopy revealed a suspicious nasopharynx mass, which the biopsy reported as non-keratinizing NPC. After CT staging, the patient was diagnosed as stage 4 NPC with extension to the brain and neck.

Discussions: The commonest site of origin of NPC is the lateral aspect of the nasopharynx and the fossa of Rosen muller. Majority of the patients present with nasal obstruction, epistaxis, post-nasal drip, hyponasal speech, or cacosmia. To aid in diagnosis, a nasoendoscopy and CT Venography are crucial to rule out head and neck tumors such as cavernous sinus mass. Therefore, involvement of closely related multiple cranial nerve palsy such as 3rd, V1, V2, and 6th cranial nerves should raise suspicion of cavernous sinus mass which can be a peculiar complication of NPC.

Conclusions: Since the early symptoms of NPC can be non-specific, a high index of suspicion must be established through detailed history taking and thorough cranial nerve examination. Confirmation of diagnosis through nasoendoscopy and CT venography are pertinent for early diagnosis.

Keywords: Nasopharyngeal carcinoma, vestibulocochlear nerve palsy, cavernous sinus mass

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

030

DELAYED PRESENTATION OF POST- TRAUMATIC EXTRADURAL HEMATOMA AND FACIAL NERVE PALSY: A CASE REPORT

SN Nasaruddin[1], Shamsul Anuar Asmee[2], AKS[2]

[1]*Hospital Baling, Kedah, Malaysia*

[2] *Hospital Kulim, Kedah, Malaysia*

Introduction: Extradural hematoma (EDH), characterized by blood accumulation between the skull and dura mater, is a well-known consequence of head trauma. However, there's a subset termed "delayed EDH," where initial scans may underestimate bleeding, only revealing significant hematoma on subsequent imaging within 72 hours. Concurrently, facial nerve palsy, a common neurological sequelae post-trauma, presents diagnostic challenges.

Case Description: A 23-year-old female presented to the ED following a motor vehicle accident with initial assessment revealed loss of consciousness and retrograde amnesia. CT scan of the head showed a right temporoparietal bone fracture without signs of acute intracranial hemorrhage. The patient was admitted for a three-day observation period in the ward. She was discharged with a referral to the neurosurgical team for further evaluation and management. However, on day six post-trauma, the patient returned with new complaints of right-sided facial drooping, raising concerns of potential neurological complications. Subsequent imaging studies revealed the development of an acute right temporoparietal extradural bleed, in addition to the previously identified bone fracture. An urgent consultation with both the neurosurgery and otorhinolaryngology teams to formulate an appropriate treatment plan. In response to the emergent situation, corticosteroid therapy was promptly initiated to manage the evolving neurological symptoms and mitigate the risk of further complications. She was treated conservatively and shows a good sign of recovery.

Discussion: Delayed EDH underscores the need for vigilant monitoring and serial imaging in head trauma management. Temporal bone fractures, often associated with delayed EDH, require heightened clinical suspicion. Acute EDH has a higher risk of deterioration, requiring evacuation, while those with delayed presentation can be managed conservatively. Delayed facial nerve palsy post-temporal bone fractures involves hematoma expansion exacerbating facial nerve compression. While corticosteroids may provide relief, surgical decompression may be necessary.

Conclusion: The presented case highlights the diagnostic intricacies associated with delayed post- traumatic EDH and facial nerve palsy on day 6 of trauma. Clinicians must remain vigilant for subtle clinical manifestations and utilize serial imaging to promptly identify evolving intracranial pathologies despite presentation out of timeframe. Furthermore, patients should receive comprehensive education regarding potential delayed neurological sequelae and the importance of timely medical evaluation.

Keywords: Extradural haemorrhage, Facial palsy

031

CASE REPORT OF EMERGENCY ESCHAROTOMY IN CIRCUMFERENTIAL FULL THICKNESS BURN OF THE THORAX AND ABDOMEN

Ahmad Izwan Sapri[1], Mohd Fahmi Bin Mohd Yunus[1], Mohd Hilmi Che Aun[2]

[1]*Department of Emergency and Trauma, Hospital Alor Gajah, Melaka*

[2]*Department of Emergency and Trauma, Hospital Melaka, Melaka*

Introduction: Circumferential full thickness burn of the thorax and abdomen is uncommon and can cause deadly complication. Emergency escharotomy is vital as a decompressive procedure in early resuscitation to improving circulatory function, hence improve patient survival.

Case Presentation: A 70-year-old male has involved in mass casualty incident after a bus he were travelling caught in a fire in an expressway. Patient sustained extensive major burn injury involving circumferential thoracic and abdominal region with severe inhalation injury with total body surface area (TBSA) of eighty-five percent. Eschar circumference completely the thorax and abdominal region. Patient was hypotensive and hypoxic which blood pressure was 90/52 mmHg and SPO2 was 85 percent. Patient was semi-electively intubated and bedside emergency escharotomy was performed. Subsequently, patient hemodynamic shows a better progress and safely admitted to intensive burn unit. Patient succumbed a day later due to septicemia and multiorgan failure.

Discussion: Circumferential full thickness burns of thoracic, and abdomen is rarely encountered in emergency department. Eschar is a tough, inelastic, and non-viable tissue result from burned skin causing mechanical chest restriction and intraabdominal hypertension It interfered blood circulation, expansion of the lung, and hinder lung ventilation. Hence result in visceral hypo-perfusion and abdominal compartment syndrome. Escharotomy is vital and rarely performed in emergency department setting.

A study published by Tsoutsos D et al found that early emergency escharotomy able to reduce intraabdominal hypertension (IAH) and abdominal compartment syndrome in full thickness thoracic and abdominal burn. It is a vital procedure in reducing mortality in severe burn patient. It may not affect overall survival rate, but it does provide optimal resuscitation outcome.

Conclusion: Circumferential burn of thoracic and abdominal region reduces trauma survival rate. Early emergency escharotomy important for optimal resuscitation.

Keywords: escharatomy, circumferential burn, thorax

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

032

DOUBLE THE TROUBLE CAVERNOMA

Sharmeni Devi[1], Renuka Kumaraguru[1], Thishanrthini Seeva[2], Geethasha Ng[1]

[1]*Department of Emergency and Trauma, Hospital Kuala Lumpur*

[2]*Department of Emergency and Trauma, Hospital Batu Gajah*

Introduction: Cavernous malformations, also known as cavernous angiomas or cavernomas, are abnormal clusters of dilated blood vessels, ranking as the third most common cerebral vascular malformation. They affect up to 0.5% of the general population, constituting a significant portion (8-15%) of all brain and spinal vascular malformations. While many cavernomas are asymptomatic, they can cause symptoms such as headaches, seizures, or focal neurological deficits if they bleed.

Case Description: A 38-year-old female without prior medical illness presented with sudden binocular diplopia and blurred vision persisting for five days. Upon examination, vital signs were stable with a full Glasgow Coma Scale (GCS). Neurological examination revealed no abnormalities, but examination of the left eye indicated a visual field defect in the temporal field and binocular diplopia during left gaze. A contrast-enhanced computed tomography (CECT) scan of the brain revealed bleeding at the left pontomedullary junction, prompting further investigation with MRI, which confirmed the presence of a cavernoma. The bleeding size was small and patient was treated conservatively by the neurosurgical team. The symptoms improved but not completely. She was discharged with follow up by the team.

Discussion: Cerebral cavernous venous malformations, or cavernomas, often exhibit characteristic features on MRI scans. They can be classified into four types according to the Zabramski classification: type I involves subacute hemorrhage, type II is the most common and presents as a classic "popcorn" lesion, type III entails chronic hemorrhage, and type IV manifests as multiple punctate microhemorrhages.

Asymptomatic lesions are typically monitored with annual MRI scans for two years. Surgical intervention is warranted when symptoms like seizures are uncontrollable or when there is evidence of worsening bleeding.

Conclusion:

Persistent diploplia and bluring of vision should prompt imaging investigation and cavernoma can be one of the reasons. While the presentation of cavernomas is often benign, inadequate monitoring can lead to severe bleeding, potentially resulting in a stroke or even death.

033

TRAUMA CONUNDRUM: DAMAGE-CONTROL RESUSCITATION IN AN END-STAGE RENAL DISEASE PATIENT.

Nik Shaheeda M.[1], Chan Wai Ying[1], Muhammad Khidir Mohd Kamil.[1]

[1]*Department of Emergency and Trauma, Hospital Teluk Intan*

Introduction: Trauma patients with pre-existing end-stage renal disease (ESRD) are at a greater risk of morbidity and mortality. In a Canadian cohort of trauma patients with ESRD, the all-cause inhospital mortality was three times higher than in the non-CKD group. Special attention must be given to volume resuscitation because of their limited ability to excrete solutes and fluids.

Case description: A 51-year-old gentleman with underlying ESRD presented with severe abdominal pain following a motorcycle skid. He was tachypneic and hypoxic, with oxygen saturation of 95% on 3 L/min nasal cannula. He sustained class III hypovolemic hemorrhagic shock. A trauma survey revealed a suspected left simple hemothorax and blunt intraabdominal injury. Extended focused assessment sonography in trauma scan demonstrated free intraperitoneal fluid and left pleural effusion. He was resuscitated initially with a 500 ml crystalloid and a unit of safe O blood. However there was not much improvement. The ABC score was 3. A massive transfusion protocol (MTP) was activated, and a series of blood products were transfused along with intravenous tranexamic acid and calcium gluconate. The left intrathoracic was decompressed and drained only serous fluid. The surgical team was alerted for damage-control surgery. Intraoperatively, he sustained a grade IV splenic injury with an estimated blood loss of 7 L. The spleen was removed, and he was transfused with another cycle of MTP packages. Post-operatively, he was admitted to the intensive care unit. He developed peri-pancreatic hematoma that required drainage. He recovered well and was discharged three weeks later.

Discussion: Resuscitating ESRD patients poses several challenges. A diagnostic dilemma in an ESRD with preexisting intra-abdominal fluid collections and pleural effusion can be mistaken for free fluid or hemothorax following trauma. In this scenario, computed tomography is useful to discriminate between different types collections. Attention must be directed to volume resuscitation because urine output and blood gas parameters may be difficult to interpret. They often require invasive hemodynamic monitoring to accurately assess the response to treatment.

Conclusion: Modified trauma management strategies should be emphasized for patients with ESRD after major trauma as they are at higher risk of developing complications and mortality.

Keywords: damage-control resuscitation, end-stage renal disease, trauma.

034

LAW & ORDER DEFEATED CSI? WHEN JUSTICE IS DENIED BY VICTIM SILENCE

Rosdara Masayuni Bt Mohd Sani[1], Mohd Amin Bin Mohidin[2], Chittima Phakdee Som Bat[1], Tan Jia Ying[1], Pragashini Raman[1], Lai Yong Sheng[1]

[1]*Clinical School Johor Bahru, Monash University Malaysia, Malaysia*

[2] *Emergency Department, Hospital Sultanah Aminah, Johor Bahru, Malaysia*

Introduction: History-taking is a vital step in the management of patients and correlating history with clinical findings determine the final diagnosis. This is a case of life-threatening injury in an adult with marked discrepancy between history and physical findings with queries on possible Domestic Violence.

Case description: The patient, a 31-year old lady, was referred from Hospital Temenggong Seri Maharaja Tun Ibrahim, Kulai to the Emergency Department, Hospital Sultanah Aminah. She was in Hypovolemic Shock Class III secondary to deep laceration wounds with tendon cut at both calves, following an alleged fall backwards. She was managed with fluid resuscitation and Safe O blood transfusion followed by a plan for tendon repair and wound debridement under general anaesthesia. Further wound examination revealed an incision wound with maximum length of 5cm and a depth of 4cm. This finding revealed a significant discrepancy on the nature of the injury. Hence, it raises suspicion of a "Non-Accidental Injury". Unfortunately, One Stop Crisis Center (OSCC) activation was denied as the patient did not want to file a police report.

Discussion: This case report highlights the substantial need for awareness of domestic violence and utilisation of the One Stop Crisis Center (OSCC) services in public tertiary hospitals. OSCC provides comprehensive support for victims of violence, including medical, psychological, and legal assistance. In this case, the patient's refusal to self-acknowledge and persistent reluctance to admit the incident has jeopardised the patient's safety. This emphasises our critical roles as healthcare providers to recognise evidence of domestic violence and proceed with police reports and referrals to social welfare and counselling. Under-recognition of the need to utilise OSCC's resources hinder the provision of timely and effective support for victims as well as their children. This case report also aims to promote education and awareness campaigns by health authorities. This would help to develop a standardised approach in addressing domestic violence, especially when consent is difficult to be obtained.

Conclusion: Education and awareness of domestic violence survivors are crucial in improving patient safety. Healthcare professionals are encouraged to practise integrating OSCC services in any suspected case.

Keywords: One Stop Crisis Center (OSCC), domestic violence, non-accidental injuries, victim support, trauma care, counselling, social welfare.

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

035

THE CYANOSED NORMOXIA GENTLEMAN: A RARE PRESENTATION OF DAPSONE-INDUCED METHAEMOGLOBINEMIA

Joanne Sue James[1], Devarani A/P M Valusamy[1]

[1]*Department of Emergency and Trauma, Hospital Sultan Idris Shah, Serdang*

Introduction: When encountering a cyanosed patient, we often anticipate a poorly saturating patient with airway compromise. This may not be the case in a phenomenon we rarely encounter- methaemoglobinemia.

Description: We present a 44 year old HIV+ve gentleman with multiple admissions for Pneumocystis Pneumonia. He was started on Tablet Dapsone 200mg OD during his clinic appointment, after which he came to us complaining of generalised rashes. He appeared cyanosed over the lips and peripheries. His saturation under room air was 88% but strangely, he wasn't tachypneic. Interestingly, his arterial blood gas did not demonstrate hypoxia; with a PO2 (partial pressure of oxygen) of 435.3; and yet he failed to saturate even when started on High Flow Nasal Cannula (HFNC) 60/60. With the given history of Dapsone consumption, a bedside methaemoglobin test taken revealed elevated levels of methaemoglobinemia at 14.3%. We also noticed he had chocolate blood during blood-taking. He then given IV Methylene Blue 1mg/kg, after which his central and peripheral cyanosis resolved. Methaemoglobin levels reduced from 14.3% to 4.6%. His saturation also improved.

Discussion: Methaemoglobinemia is a condition whereby there is oxidation of iron from ferrous form (Fe 2+) to ferric form (Fe 3+) which induces a haemoglobin structural change that shifts the oxygen dissociation curve to the left, reducing the unloading of oxygen at the tissues. This phenomenon can be genetic or drug-induced; and the latter is usually associated with oxidative drugs such as dapsone. Studies show that the incidence of dapsone-induced methaemoglobinemia to be at 15% and usually associated with doses of 200mg OD or more. A discrepancy in the partial pressure oxygen (p02) and the saturation of the patient; called the 'saturation gap', is pathognomonic of this phenomenon. Another feature is 'chocolate blood' that is noticed during blood-taking. The mainstay treatment is methylene blue but is limited to drug-induced methaemoglobinemia.

Conclusion: Methaemoglobinemia is rarely encountered in the emergency room but clinicians have to develop a high clinical acumen when obtaining relevant drug history, or when facing a patient with a classic 'chocolate blood' and 'saturation gap'. Prompt recognition of the entity is truly life-saving.

Keywords: cyanosed, methaemoglobinemia, methylene blue

036

I'M HAVING A BRAIN ATTACK! : A CASE REPORT ON AN ISCHEMIC STROKE POST THROMBOLYSIS FOR MYOCARDIAL INFARCTION

Joanne Sue James[1], Devarani A/P M Valusamy[1]

[1]*Department of Emergency and Trauma, Hospital Sultan Idris Shah, Serdang*

Introduction: When initiating thrombolytic reperfusion therapies for patients that present with myocardial infarction, we often anticipate the complication of intracranial haemorrhage which manifests as stroke-like symptoms post thrombolysis. How often do we encounter ischaemic strokes post thrombolysis?

Description: We present a case of a 49 year old gentleman, presenting with central chest pain. The electrocardiograph (ECG) demonstrates extensive anterolateral myocardial infarction (MI). A bedside Echocardiogram (ECHO) confirms the diagnosis, demonstrating hypokinetic anteroseptal and lateral walls. He was treated with IV Tenecteplase, resulting in succesful thrombolysis. 4 hours later, he developed slurred speech. CT Brain done immediately shows no acute pathology. The following day in ward, he complained of evolving expressive aphasia and facial assymetry. A repeated CT Brain demonstrated an acute left fronto-parietal-temporal infarct. A formal ECHO was then performed, explaining the manifestation of the cerebrovascular event: There are regional wall motion abnormalities as specified but also, a thrombus seen at LV(Left ventricle) apical wall 1.2cm, and second 0.95cm thrombus oscillating at LV lateral wall.

Discussion: LV thrombus is a common sequelae of MI, especially with anterior MI, with an incidence of 13.4%, namely due to the large LAD (left anterior descending artery)- supplied area that ends up hypokinetic after an infarct. When blood stasis ensues, in concordance with endothelial injury and the hypercoagulable state of MI, Virchow's triad is perpetuated, forming the LV thrombus. This phenomenon may occur within 24 hours post-MI, despite reperfusion, especially if the patient has delayed presentation to ED. In a study done, 1% of patients with anterior MI that underwent fibrinolysis still developed ischaemic stroke due to the LV thrombus. The study also states that when an acute myocardial infarction was just treated with thrombolysis, there was no difference in the LV thrombus formation rate, but the addition of low molecular weight heparin (LMWH) significantly reduces the formation of the LV thrombus and hence a cardioembolic event.

Conclusion: Thromboembolic events are a common complication of anterior MI and serial bedside ECHO is imperative to identify the culprit, the LV thrombus even post thrombolysis. Also, in treating anterior MI, early initiation of LMWH is crucial.

Keywords: myocardial infarction; stroke

037

HARUMANIS TEMPTATION: A CASE OF PENETRATING NECK INJURY

Mohd Husnul Hadi Mohd Rodzi[1], Muhammad Fakhrurrazi Mohamad Bakri[1], Nurkhairulnizam Abd Halim[1]

[1]*Emergency and Trauma Department, Hospital Tuanku Fauziah, Kangar, Perlis*

Introduction: Penetrating neck injuries can be deadly dangerous if not managed timely as it may compromise airway and neurovascular structures surround it. We demonstrated a fortunate case of penetrating neck injury involving elderly which spared his airway and vascular components.

Case description: A 73-year-old, male had a history of fall from a tree while trying to pluck mangoes. Post fall, the tree branch stabbed over his left submandibular region. Post trauma patient complaint of pain over left jaw and worsened upon swallowing. At emergency department, patient was alert, no stridor or hoarseness of voice. His vital signs were stable. Physical examination identified an intact tree branch with sharp edge penetrating from left submandibular to left floor of mouth. No active bleeding at site of penetration was observed. Intra-orally the other end of tree branch at left floor of the mouth and abutting left ventral surface of the tongue and hematoma present. Cervical Computed tomography showed penetrating wound with hypodensed foreign body at left lower mandible extending to left side floor of mouth with depth of 5.8cm penetration through left platysma muscle, left anterior belly of digastric and left myoglossus muscles. Early airway assessment and patient stabilization was done. Subsequently, case was referred to dental department for surgical repair.

Discussion:

Penetrating neck injury accounts for 5-10% of all trauma cases. Major vascular and neurological structures span the short gap between the head and the torso, including spinal cord, the esophagus, and the carotid and vertebral arteries, if unrecognized neck injuries easily fatal and account of rapid exsanguination or airway occlusion and asphyxiation. In this patient, he was lucky that penetrating injury didn't involve major structures and nearly escaped from "death". As demonstrated from clinical findings of our patient, no major injury involved. Our patient was managed by multidisciplinary team.

Conclusion: It is important to keep respiratory tract unobstructed and major vessels not involved. Early surgical interventions may salvage the life of the patient. It is important to identify site of the neck injury to organize management of the patient and follow algorithm as per protocols.

Keywords: Penetrating, neck injury, trauma

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

038

"RACE AGAINST TIME WITH MYOCARDIUM AND CEREBRAL LOSS"

Kong Sin Yee[1], Zulfaqar Othman Thani[1]

[1]*Hospital Sultanah Bahiyah, Alor Setar, Kedah, Malaysia*

Introduction: Thrombolysis with streptokinase (STK) during cardiopulmonary resuscitation (CPR) can stabilize and improve survival rate in acute myocardial infarction (AMI) or initial conventional resuscitation efforts remain unsuccessful. We present a case of AMI with VF, undergone prolonged CPR which successfully reperfusion with accelerated STK infusion and achieved good neurological function.

Case: A 61 years old gentleman, referred from private medical centre for AMI. Initial ECG in private centre showed sinus rhythm with hyperacute T wave over lead V2-V4. He was served with dual antiplatelet therapy (DAPT) then referred to emergency department HSB. However upon arrival, patient developed witnessed cardiac arrest with VF. Resuscitation started as per ALS protocol in which total defibrillations with 200 J given for 8 times, together with pharmacological antiarrhythmic drugs. IV STK 1.5 mega unit was initiated at 25 minutes of resuscitation and completed over 15 minutes. Patient achieved return of spontaneous circulation (ROSC) after 5 minutes of STK completion. Vital sign post ROSC remain normotensive but subsequently required double inotropes for circulatory support. ECG post ROSC showed sinus rhythm with ST segment elevation over lead 1, aVL, V2-V4.

Subsequent ECG at 1 hour post STK showed resolution of ST segment over lead I, aVL, V2- V4. Post resuscitation, patient was admitted to CCU for post cardiac arrest care. He was able to wean off from ventilatory support after 2 weeks and achieved good neurological function.

Discussion: In recent reports, thrombolysis during CPR is recommended in AMI and no significant bleeding has been reported. Restoration of microcirculatory perfusion lead to increasing frequency of ROSC and achieved better neurological outcome. Generally, neurological outcomes was better associated with shorted duration of CPR but published report had revealed that no definitive maximum duration to determine neurological outcome. From case series, accelerated STK infusion is safe, well tolerated, and significantly faster and higher reperfusion rates, resulting in less in-hospital mortality rates.

Conclusion: Thrombolysis with STK during CPR in AMI had shown to reduce mortality rate and favourable neurological outcome. Therefore, STK is safe and effective during prolonged CPR in cardiac arrest due to AMI.

Keywords: AMI, Prolonged CPR, Accelerated Streptokinase

039

REVOLUTIONIZING ABSTRACT SUBMISSION: LEVERAGING ARTIFICIAL INTELLIGENCE FOR CASE REPORT PREPARATION IN EMERGENCY MEDICINE

Mohd Zaim Bin Abdullah Zawawi

Emergency Department, Sarawak General Hospital, Kuching, Sarawak, Malaysia

Background: Crafting numerous high-quality case report abstracts for symposium submission within tight timelines poses a significant challenge. This presentation explores the efficacy of employing artificial intelligence (AI), specifically ChatGPT, to expedite the drafting of 12 abstracts for an emergency medicine symposium over a span of one week.

Objective: To showcase the efficiency of AI, particularly ChatGPT, in accelerating the abstract writing process, ensuring the creation of concise, coherent case report abstracts, and meeting stringent submission deadlines.

Methods: Over one week, ChatGPT aided in the generation of 11 case report abstracts and 1 quality improvement initiative abstract for an emergency medicine symposium.

The methodology involved initial abstract drafting using ChatGPT's capabilities, followed by iterative revisions based on specific feedback and symposium guidelines. Each abstract was tailored to meet the symposium's formatting requirements and content standards.

Results: ChatGPT significantly expedited the initial drafting phase, allowing more time for iterative refinement and review. The AI-generated drafts provided structured, coherent content, facilitating seamless modifications and ensuring consistency across all abstracts. Despite English not being the user's first language, ChatGPT's assistance ensured that the abstracts met the submission criteria and adhered to symposium guidelines.

Conclusion: Harnessing ChatGPT for abstract preparation in emergency medicine symposiums streamlines the drafting process, enabling researchers and clinicians to meet tight submission deadlines while maintaining quality standards. AI serves as a valuable tool in the rapid creation of case report abstracts, optimizing efficiency and output quality.

Keywords: artificial intelligence, case report abstracts, emergency medicine

040

CAUGHT IN THE SURGE: A CASE REPORT OF ELECTRICAL STORM IN PATIENT WITH IMPLANTABLE CARDIOVERTER DEFIBRILLATOR

Shin Loong Soong[1], Hazim Bin Halim[1], Nin Ern Tan[2]

[1]*Department of Emergency and Trauma, Hospital Tangkak, Tangkak, Johor, Malaysia*

[2]*Department of Emergency and Trauma, Hospital Segamat, Segamat, Johor, Malaysia*

Introduction: Electrical storm (ES) is a rare life-threatening condition, marked by recurrent sustained ventricular arrhythmias (VA) of more than 3 episodes within 24 hours. This report explores a compelling case of ES in patient with implantable cardioverter defibrillator (ICD), shedding light on the intricacies of acute management in such event.

Case Description: A 55 years-old male with an implantable cardiac resynchronization therapy defibrillator (CRT-D) due to underlying hypertrophied obstructive cardiomyopathy and atrial fibrillation, has presented to the emergency department with multiple episodes of shocks by CRT-D, preceded by fever and productive cough for two days. Upon review, he was conscious and haemodynamically stable. The cardiac monitor showed multiple episodes of sustained ventricular tachycardia (VT) despite 53 episodes of appropriate shocks by CRT-D. Systemic examination revealed findings consistent with pneumonia. Resolution of ES was achieved upon administration of intravenous (IV) Amiodarone infusion, 300mg over 30 minutes, IV Midazolam 3mg and IV Fentanyl 50mcg. He was transferred to a cardiology centre, and treated for pneumonia with supportive management. Device interrogation was carried out during his hospitalisation. He was discharged after one week with scheduled follow-up.

Discussion: ES is a complex phenomenon involving interactions between proarrhythmic triggers such as infections and autonomic imbalance in individual with predisposing cardiac abnormalities. Patient with an ICD often present following multiple distressing shocks, which itself triggers more VA due to sympathetic overdrives. Thus, in the event of ES, ICD should be temporarily deactivated to prevent vicious cycle of ICD detection and shocks.

Conclusion: The case underscores the clinical management of ES in patient with ICD, which is an uncommon encounter in ED. Effective navigations on acute management of ES require understanding of the causative events and pathophysiology of the condition.

Keywords: electrical storm, implantable cardioverter defibrillator, ventricular arrhythmia.

041

ATHLETIC CLOTS: WHEN SPORT MEETS DVT

Nuzul Furqanni Ismail[1], Nursyazana Nazee Mudeen[1]

[1]*Emergency and Trauma Department, Hospital Sultanah Bahiyah, Alor Setar, Kedah*

Introduction: Immobilization can lead to venous stasis and contribute to the formation of a venous thrombus, it's less recognized that recent participation in strenuous physical activity doesn't necessarily reduce a patient's susceptibility to deep vein thrombosis (DVT). Therefore, despite having a low risk stratification score, bedside Point-of- Care Ultrasound (POCUS) should be considered a tool for diagnosing DVT. This was demonstrated in the case of a young man who, despite participating in a recent running event and having a low Well score risk, he was found to have leg DVT through bedside POCUS.

Case Report: A 17-year-old male, who was previously in good health, active and non-smoker presented with unilateral leg swelling, two days after he finished a 7km running event. His right lower limb was swollen, warm to touch, and tender. A bedside POCUS revealed non-compressible right popliteal and external inguinal vein. He was started on an anticoagulant and test for autoimmune and connective tissue disease were negative, thus was discharged well.

Discussion: The symptoms of DVT are often ambiguous, leading the diagnostic approach to be primarily driven by the pre-test clinical probability. While the binary Wells score has shown its effectiveness in categorizing the pre-test probability of DVT in the ED, it doesn't definitively exclude DVT in patients with a low probability score or confirm it in those with a high score. Consequently, POCUS plays a well-established role in swiftly assessing suspected DVT cases in the emergency setting. Even though athletes thought to have a lower risk of venous stasis, they are still exposed to several thrombogenic risk factors such as dehydration, haemoconcentration, and microtrauma to the blood vessel walls. Therefore, it's important to consider the possibility of DVT in an athlete presenting with unilateral leg swelling. When faced with several differential diagnoses, bedside POCUS can be a valuable tool to refine the diagnosis.

Conclusion: The use of bedside POCUS for the lower extremity is highly beneficial in diagnosing DVT, even when other risk assessment methods have resulted in false negative outcomes. This highlights the importance of POCUS as a diagnostic tool in such cases.

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

042

"THE DELTA WAVE DILEMMA: MANAGING SUPRAVENTRICULAR TACHYCARDIA IN WOLFF- PARKINSON-WHITE SYNDROME"

J. Hidzir[1], Shonita Das[1], Noor Muhammad Azlan Shah[2]

[1]*Emergency and Trauma Department, Hospital Shah Alam, Selangor*

[2]*Department of Medicine, Hospital Shah Alam, Selangor*

Introduction: Wolff-Parkinson-White (WPW) syndrome is a congenital abnormality in which an accessory atrioventricular (AV) pathway allows conduction from the atria to the ventricles, bypassing the normal AV pathway through the Bundle of His. These abnormal pre-excitations can present with regular narrow complex tachycardia and can be associated with malignant arrhythmia, resulting in sudden death. We present a case where features of pre-excitation were detected on an ECG, with successful management of the supraventricular tachycardia (SVT) using AV nodal blocking agents such as adenosine.

Case description: A 38-year-old gentleman with no known medical illness presented with palpitations and chest discomfort. He was afebrile with a blood pressure of 118/62. His pulse was tachycardic, with a rate of 180 beats per minute, and auscultation of the heart revealed rapid heartbeats. Lung auscultation was normal. An electrocardiogram (ECG) showed narrow complex tachycardia. Carotid massage and modified Valsalva manoeuvre failed to revert the arrhythmia. He was given a rapid push of intravenous (IV) adenosine 6 mg, and a subsequent ECG showed the presence of a delta wave. He was then admitted to the Cardiology Care Unit (CCU) for resolved supraventricular tachycardia (SVT) with WPW syndrome, precipitated by unstable angina.

Discussion: This case is a typical presentation of SVT managed with IV adenosine, after which delta waves were detected in the ECG, suggesting Wolff-Parkinson-White syndrome. The downside of IV adenosine or other medications such as beta-blockers, calcium channel blockers, digoxin, and amiodarone is that they can cause conduction via the accessory pathway, leading to a rapid ventricular rate and subsequent cardiovascular collapse. Therefore, the best treatment is synchronized cardioversion. It is crucial to look for any abnormalities in the ECG after a successful reversion to avoid using any of these medications as the second-line treatment.

Conclusion: Adenosine can still be the agent of choice as the first-line drug for most narrow complex tachycardias, even though it can cause pre-excitation atrial fibrillation, which can be fatal in a patient with WPW.

Keywords: Wolff-Parkinson-White syndrome, Supraventricular Tachycardia, Delta wave.

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

043

FLEXIBLE BRONCHOSCOPY IN EMERGENCY MEDICINE: THE NEW ERA

Leong Lai Hong[1], Azmi Bin Ahmad[1], Rozaimie Cariaga[1]

[1]*Emergency and Trauma Department, Hospital Queen Elizabeth, Sabah, Malaysia*

Introduction: Flexible bronchoscopy plays a crucial role in emergency medicine, providing valuable diagnostic and therapeutic capabilities. It allows for direct visualization of the upper and lower airways, making it useful in managing various respiratory emergencies such as foreign body removal, airway obstructions and pulmonary disorders.

Case report: A 75-year-old lady presented to the emergency department with acute respiratory distress symptoms. She has a history of chronic obstructive pulmonary disease (COPD). Initial interventions with oxygen supplementation and bronchodilators failed to provide relief. Due to persistent respiratory distress and type 2 respiratory failure, patient was intubated and put on mechanical ventilation with high ventilation setting. Chest Xray showed right middle and lower lobe collapse. Bronchoscopy lavage was performed in this patient during period of observation after noticing bedside lung ultrasound findings showed right lobar consolidation (lung hepatization). The procedure revealed thick secretions over the right middle and lower lobes which were successfully cleared. Patient showed improvement in the chest Xray post procedure. Patient was successfully extubated after 2 days and subsequently managed to wean off oxygen.

Discussion: Bronchoscopy is not a routine procedure in the Emergency Department. However, there is significant advocacy for its use in emergency situation. Flexible bronchoscopy is advantageous in emergency settings due to its ability to be performed at the bedside, providing real-time visualization and intervention. It is a relatively safe procedure in Emergency Department if performed by a trained personnel. This case illustrates the importance of prompt bronchoscopy in Emergency Department for patients with respiratory compromise. Early identification and intervention can lead to rapid improvement in lung expansion in patient with lung collapse, improve ventilation and oxygenation, reduce the duration of mechanical ventilation and hospital stay.

Conclusion: Therapeutic bronchoscopy in Emergency Department is feasible. This case shows the role of bronchoscopy in optimizing patient outcomes and avoiding potential complications associated with delayed management.

Keywords: flexible bronchoscopy, Emergency Medicine, respiratory compromise

044

DIGOXIN TOXICITY IN ELDERLY PATIENT WITH HYPERTHYROIDISM

Lim Nikkie

Emergency and Trauma Department, Hospital Tuanku Ja'afar Seremban, Malaysia

Introduction: Digoxin is a class of digitalis glycosides, with its toxicity a well-known phenomenon due to its narrow therapeutic window. This case report highlights the issue in initiating digoxin in an elderly patient with Graves' disease.

Case description: A 79 years old Female, underlying Graves' disease on Tablet Carbimazole 5mg OD, was started on Tablet Digoxin 0.25mg OD two months ago for atrial fibrillation, presented with confusion, and vomiting in nursing home. She was compliance to medications but defaulted routine monitoring. Initial diagnosis of digoxin toxicity was made supported by bradycardia with pulse rate 30 beats/min, and ECG findings of Morbitz Type II Heart Block with reverse tick sign. Laboratory investigations revealed TDM Digoxin level of 8.14nmol/L exceeded therapeutic range, euthyroid picture in Thyroid Function Test (TFT), and acute kidney injury with Hyperkalaemia in Renal Profile. Patient was given 1 vial intravenous digoxin-specific antibody (DigiFab) equivalent to 40mg diluted in 50mls Normal Saline in Emergency Department, clinically improving and subsequently discharged well after 4 days admission to intensive care. TDM Digoxin was in therapeutic range prior discharge. Digoxin was stopped and patient was planned for TFT review after 2 weeks prior to restart anti-thyroid medication.

Discussion: Digoxin therapeutically helping in atrial fibrillation by slowing cardiac AV node conduction and providing positive inotropic effect in enhancing cardiac contractile mechanism. However, chronic digoxin toxicity many result from prolonged half-life of digoxin caused by euthyroid state on antithyroid treatment, acute deteriorating renal function, dehydration, electrolyte disturbances and reduced lean body mass, especially in frail patients as case described above. In Graves' disease, hyperthyroid state increases Digoxin kinetics in distribution volume and renal clearance. As patient achieved euthyroid state after on Carbimazole, dose reduction of Digoxin is recommended to prevent the risk of digoxin toxicity. DigiFab have contributed as antidote by rapidly binding and neutralising digoxin molecules in symptomatic digoxin toxicity, especially in life-threatening dysrhythmia.

Conclusion: Patients with hyperthyroidism on treatment, are more difficult to monitor appropriate digoxin levels, as physiologic changes easily affect digoxin interaction. Both clinical judgement and routine laboratory monitoring of TFT and serum digoxin, are important in recognising digoxin toxicity in patient.

Keywords: digoxin toxicity, hyperthyroidism

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

045

A RARE ENTITY OF VENOUS THROMBOEMBOLISM: A CASE REPORT OF PHLEGMASIA CERULEA DOLENS

Nurul Nadia Rizal[1], Nin Ern Tan[1]

[1]*Emergency Department, Hospital Segamat, Johor, Malaysia.*

Introduction: Phlegmasia cerulea dolens (PCD) is the life and limb-threatening sequelae of deep vein thrombosis (DVT), which is complicated by venous congestion and compartment syndrome, leading to arterial occlusion of the involved limb. It is a rare condition with high mortality rate.

Case Report: A 78-year-old Malay lady with underlying diabetes mellitus and hypertension presented to the emergency department with left lower limb swelling and pain for three days. There was no history of trauma, shortness of breath, or risk factors for thromboembolism. On examination, she was alert, comfortable, and not tachypneic. Her vital signs were normal. Examinations revealed diffuse and tender swelling over the whole left lower limb. The limb was cold with absent of the distal pulses, and the skin was mottled. Other systemic examinations were unremarkable. Point-of-care two-point compressions ultrasonography of left lower limb showed the presence of a thrombus within the left femoral and popliteal vein. The diagnosis of PCD was made clinically, and the unfractionated heparin infusion was initiated. Urgent CT angiogram/venogram revealed massive DVT extending from the left common iliac vein distally to all major periphery veins and atherosclerotic disease of the arteries with intermittent stenosis of the profundus femoris, extending to the distal arteries of the involved limb. Supportive management was continued in the ward. During admission, her condition deteriorated. She was intubated due to respiratory failure and supported with noradrenaline. CT pulmonary angiogram showed no pulmonary embolism. She succumbed to hospital-acquired pneumonia after two weeks of admission.

Discussion: PCD is the extreme manifestation of extensive DVT with evidence of acute limb ischemia. Timely diagnosis of PCD by constellation of signs and symptoms is crucial for initial management, including administration of intravenous heparin, elevation of the involved limb, fluid resuscitation, and pain management. A CT angiogram/venogram can confirm the diagnosis and severity of vascular occlusion. Other therapeutic interventions includes catheter-directed thrombolysis and thrombectomy. PCD carries a poor prognosis, and if gangrene presents, the mortality will increase from 20% to 40%.

Conclusion: A unilateral swollen, painful limb, complicated by signs of acute limb ischaemia, should ring the bell of the diagnosis of PCD. Early clinical recognition of this condition and supportive treatment would prevent further complications and reduce mortality risk.

Keyword: Phlegmasia cerulea dolens, deep vein thrombosis, venous thromboembolism, limb ischaemia

046

A TEAR CAUSING A DEADLY DOOM: A CASE OF BLUNT CEREBROVASCULAR INJURY

Harjinder Singh A/L Charanjit Singh[1], James Sia Soon Hang[1], Tan Qi Shen[1], Yang Xiang Yun[1]

[1]*Emergency And Trauma Department, Hospital Sarikei, Sarawak, Malaysia*

Introduction: Blunt cerebrovascular injury (BCVI) is a non-penetrating injury to the carotid or vertebral artery that can cause stroke in trauma patients. BCVI has been considered rare, with an overall incidence of 1–2% in trauma cases.

Case Description: A 24 years old gentleman presented to the emergency department with sudden onset of right- sided body weakness and slurring of speech. Further history revealed that he was involved in a road traffic accident 2 days prior and had been complaining of neck pain.

During examination, his GCS showed E3V2M5 with power 0/5 over the right upper limb and lower limb. There was also noticeable right-sided facial asymmetry with slurring of speech. Tenderness was felt over the upper cervical region.

Computed Tomography (CT) brain and cervical showed acute left middle cerebral artery (MCA) territory infarct with Jefferson's fracture, C2 lateral mass fracture and C7 burst fracture.

CT angiography of head and neck revealed traumatic left internal carotid artery dissection complicated with intraluminal thrombus and resultant large left middle cerebral artery infarct.

Discussion: BCVI is at a higher risk if there is a high-energy transfer mechanism, along with clinical or imaging evidence of significant craniofacial, cervical, or upper thoracic injuries. About 70% are associated with cervical spine fractures. Positive signs and symptoms, and risk factors that fulfill Denver's criteria in this case include stroke on CT (left MCA infarct) and cervical spine fracture (Jefferson's fracture). The risk of cerebral infarction following BCVI is reduced with antithrombotic therapy, but it can be difficult as often there may also be intracranial hemorrhage or intraabdominal injury from the trauma. In certain cases, stenting of the injured vessel or open surgical repair is performed.

Conclusions: BCVI in trauma patients requires a high index of suspicion based on the mechanism of injury, signs and symptoms, and risk factors. Carotid artery dissection can often be misdiagnosed if overlooked and carries a high mortality rate if delayed treatment. Thus, clinicians can utilize appropriate screening tests, such as Denver's criteria, and diagnostic tools, like CT angiography, in treating traumatic cases presenting with stroke symptoms.

Keywords: Blunt cerebrovascular injury, Stroke, Cervical spine fracture.

047

AT NECK- BREAKING SPEED : A CASE OF ALTERED MENTAL STATUS FROM INDIRECT TRAUMA TO THE CAROTIDS

Norhara Bt Noorsham Kamal[1], Nur Abdul Karim[1], Syazana Kamarul Bahrin[2]

[1]*KPJ Damansara Specialist Hospital, Selangor, Malaysia*

[2]*KPJ Damansara Specialist Hospital 2, Selangor, Malaysia*

Introduction: Traumatic cervical artery dissections (TCAD) is a complication of severe blunt head or neck trauma, the main cause being motor vehicles accident (MVA). TCAD are increasingly recognized with an incidence of up to 0.86% for internal carotid artery and 0.53% for vertebral artery. Here, we present a compelling case of TCAD associated with a sports injury.

Case description: A previously healthy 14-year-old boy was brought to the emergency room after colliding with a basketball pole during a match. Despite the impact, he continued playing but subsequently experienced restlessness and three episodes of vomiting three hours later. Upon assessment in the emergency room, he displayed altered sensorium with a Glasgow Coma Scale (GCS) score of E3V1M5 with no neurological deficits. A plain CT scan of the brain was initially normal, and he was admitted for observation due to suspected cerebral concussion. On the next day, he developed right dense hemiplegia and a repeated CT brain showed patchy hypodensities in territory of left middle cerebral artery (MCA) with mild cerebral edema. A further MRI showed evidence of left internal carotid artery (ICA) dissections and thromboembolic stroke. The patient was promptly initiated on dual antiplatelet therapy (DAPT), anti-seizure medications, and physiotherapy.

Discussion: Sports-related TCAD can occur due to direct or indirect mechanisms, particularly in activities involving rapid neck movement such as abrupt rotation or flexion-extension. The clinical presentations of TCAD vary, ranging from stroke to Horner syndrome and cranial nerve paralysis. Arterial thrombosis, leading to permanent neurological deficits, is the most common manifestation, with mortality rates approaching 40%. Early initiation of anticoagulation or antiplatelet therapy is crucial to prevent further thromboembolic events, with treatment tailored to individual patient factors, comorbidities, and overall injury severity.

Conclusion: A high index of suspicion for TCAD is warranted in cases of head and neck injuries, regardless of initial symptomatology. Timely detection and intervention, such as the early administration of anticoagulants, could potentially mitigate the risk of subsequent stroke. To our knowledge, this represents only the second reported case of internal carotid dissections associated with basketball sports.

Keywords: Carotid dissection, trauma, basketball

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

048

HIGH-PRESSURE INJECTION INJURY, MORE THAN MEETS THE EYE

Cheah Hooi Hooi[1], Jeremiah Ding Deck Shen[2]

[1]*Hospital Universiti Sains Malaysia*

[2]*Clinical Research Center Hospital Bintulu, Malaysia*

[2]*Department of Emergency and Trauma, Hospital Bintulu, Malaysia*

Introduction: High-pressure injection injuries are uncommon but hide extensive deep wounds. The high pressure allows materials, such as oil, paints, and chemical solvents, to enter the underlying fascial planes and tendon sheaths.

Case Discussion: A 50-year-old right-hand dominant mechanic presented one hour post-trauma after a malfunctioning hydraulic pump injected high-pressure air into his forearm. The injury resulted in a 10cm x 6cm laceration wound over the flexor and medial aspect of the mid-forearm with muscle and tendon exposed, nonpalpable right-hand radial pulse, loss of sensation over the ulnar nerve distribution, and limited range of motion of the wrist and finger flexors and finger abduction. A computed tomographic angiogram (CTA) was performed, which found long segment occlusion of the right distal radial and ulnar arteries, extensive subcutaneous emphysema, but no bone fractures. Intra-operative findings during wound exploration and debridement include multiple transections of tendon, nerve, and ulnar artery with significant thrombosis. Subsequently, intravenous heparin was started with an improvement of the perfusion of the digits. He was discharged with a thermoplastic splint over the right upper limb, daily gel jelonet dressing, and antibiotics.

Discussion: Thrombus formation due to stasis, disruption of laminar flow, and release of procoagulant factors are significant factors in artery reconstruction failure. Thus, using anticoagulation in traumatic vessel thrombosis is associated with a better prognosis and reduced risk of amputation. Delayed operative management beyond six hours increases the risk of compartment syndrome and amputation, especially injury caused by high-viscosity substances, such as hydraulic oil or industrial grease. Furthermore, organic solvents, such as petrol or turpentine, cause chemical reactions leading to tissue necrosis and a higher incidence of amputation. Fortunately, the injection of nontoxic substances such as air or water is associated with better outcomes.

Conclusion: High-pressure injection injury should prompt a higher risk of suspicion of deep structural injuries. Tissue damage may be caused by the mechanical force of high-pressure injection or the chemical composition of the injected materials. Hence, in history taking, the location of the injury and the type of the injected material should be ascertained as it is one of the prognostic factors for wound healing.

Keywords: high-pressure injury, occupational risk

049

"I CAN'T FEEL MY ARM – "STONED BY FISH" VS "HORSE SHOE CRABBED" DILEMMA

Dayang Puteri Amalina Binti Abang Omar[1], Baran Palanimuthu[1]

[1]*Tengku Ampuan Rahimah General Hospital, Klang, Malaysia*

Introduction: We present a case of an unidentified marine creature sting in our emergency department with local envenomation subsequently requiring an orthopaedic referral.

Case Description: A 31 year old Myanmar gentleman was stung over his right little finger by an unidentified marine creature at a riverbank. The creature was initially identified by its local name, 'Belangkas' - the Atlantic Horseshoe Crab, and was certain he was not bitten by a snake.

He presented with swelling over his right hand, progressively worsening up to his forearm, with no symptoms of systemic envenomation. Physical examination showed a prick over the medial aspect of his right little finger with no local necrosis, tender swelling, soft compartments and no neurovascular compromise. Vital signs were stable with blood parameters within normal limits except for raised CK (585) and lactate (2.9). Right hand X-ray showed no foreign body.

Rate of proximal progression (RPP) of the swelling increased by 2 cm within 3 hours. Tab Doxycycline 100 mg BD, IM ATT and IV Morphine was given. Supportive management by adequate hydration, right hand elevation and warm compression was done.

A blister developed over the sting site on day 3 and was referred to the orthopaedic team. The patient admitted he was not confident whether the culprit animal was an Atlantic Horseshoe Crab or a Stonefish as he flung it back immediately into the river.

He was observed in the orthopaedic ward for 3 days. His right hand ultrasound showed diffuse subcutaneous edema with cobblestone appearance of the subcutaneous tissue at the dorsum with no collection seen.

Discussion: Atlantic Horseshoe Crabs are known to contain tetrodotoxin while stonefishes contain a heat labile venom. Treatment for stonefish stings include hot water immersion for 30 to 90 minutes with targeted temperature of 43 degrees Celsius as per literature. However, the treatment given in this case was warm compresses. Patient would have recovered earlier if hot water immersion was done. Rapid progression of the swelling and a blister raised concerns for necrotising fasciitis, thus an orthopaedic referral was made for surgical intervention.

Conclusion: The learning point in this case is a dilemma whether the patient was stung by 'Belangkas' or stonefish and that the treatment was based on the worst case scenario in which we might have had to consider antivenom for stonefish stings. If hot water immersion with targeted temperature was done, the patient might have recovered earlier in the emergency department without requiring an admission.

Keywords: Stonefish, Atlantic Horseshoe Crab, Unidentified marine creature sting

050

THE DILEMMA: TO COAGULATE OR ANTICOAGULATE?

THE MANAGEMENT OF SIMULTANEOUS INTRACRANIAL BLEEDING WITH CEREBRAL VENOUS THROMBOSIS (CVST)

Muhammad Affan Syafizi Hasnan[1], Athifah abdul aziz[1], Azlie Hassan[1], Ismawati Ismail[1], Nik Arif Nik Mohamed[1].

[1]*Hospital Sultan Zainal Abidin, Terengganu, Malaysia.*

Introduction: Cerebral Venous Sinus Thrombosis (CVST) associated with subarachnoid haemorrhage (SAH) is very rare and an uncommon presentation, with less than a hundred cases reported worldwide. It is even rarer to have a combination of SAH with SubDural Haemorrhage (SDH) due to CVST. The presence of SAH (intracranial bleed) alongside CVST adds complexity to the diagnostic process due to overlapping symptoms potentially leading to a missed or delayed diagnosis. Urgent neuroimaging plays a pivotal role in the workup of these cases. Furthermore, it poses an important treatment dilemma due to the simultaneous presence of bleeding and thrombosis at the same time.

Case Description: A 69 years old Malay male, with underlying diabetes, hypertension and hyperlipidaemia was brought into Yellow Zone via ambulance. He initially presented with right sided body weakness associated with presyncopal episode hours prior to arrival. Immediate Non Contrast CT head showed SAH with lacunar infarct. Initially was started on antifibrinolytic. Patient subsequently developed focal seizure with secondary generalisation which then progressed into status epilepticus and was mechanical ventilated. A CT contrast (Venogram) was then performed which revealed CVST with worsening SAH and a concurrent SDH. There were massive intracerebral haemorrhage with obstructive hydrocephalus.

Patient was then transferred to Hospital Sultanah Nur Zahirah (HSNZ) under the care of Neuromedical team. The patient was started on anticoagulant. He made a drastic improvement and was extubated the very next morning. Unfortunately, things took a bad turn when he deteriorated on the same day and sadly succumbed to death on Day 5 of admission.

Discussion: The patient had worsening intracranial bleed despite conventional treatment of CVST with anticoagulation. The role for urgent local thrombolysis and thrombectomy under interventional radiology remain mysterious in managing CVST with worsen SAH.

Conclusion: The dilemma in this case is what is the best initial treatment for a patient presented with intracranial bleed secondary to CVST. Most case reports focussed on the anticoagulation; however there is very little discussion on the topic of – worsening bleeding despite treatment with anticoagulation. Hence the dilemma ‘to coagulate or anticoagulated?’

Keywords: Cerebral venous sinus thrombosis, subarachnoid haemorrhage.

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

051

ECHOES OF DANGER: UNRAVELING THE MYSTERY OF RUPTURED SINUS OF VALSALVA ANEURYSM AMIDST INFECTION HAVOC

Syazana Kamarul Bahrin[1], SS Yong[1], Mohd Arif Mohd Zim[1]

[1] *Damansara Specialist Hospital 2, Kuala Lumpur, Malaysia*

Introduction: Sinus of Valsalva Aneurysm (SOVA) is a rare cardiac condition, affecting approximately 0.09% of the population, with a higher incidence in males. Ruptures typically occur between the ages of 20 and 40. This condition can arise from both congenital defects and acquired causes, such as infections. Many cases are discovered incidentally through cardiac imaging. Here, we present a case of acute heart failure resulting from a ruptured SOVA, precipitated by an infection.

Case Description: A previously healthy 22-year-old male presented to the emergency department with sudden onset palpitations, breathlessness, and chest pain. On examination, he was tachycardic but normotensive. An electrocardiogram (ECG) revealed sinus tachycardia. Initial auscultation showed clear lungs and no heart murmurs. Blood tests indicated elevated high-sensitivity Troponin-T, leukocytosis, elevated C-reactive protein, and abnormal kidney function. The initial diagnosis was pneumonia complicated by myocarditis and acute kidney failure. His condition worsened during admission, with significant signs of acute heart failure, including elevated Pro-BNP levels and lung congestion on chest X- ray. After 48 hours, he had a loud continuous murmur, raised jugular venous pulse (JVP), and bilateral lung crepitations. A transesophageal echocardiogram revealed a ruptured right coronary cusp at the aortic root, causing a shunt into the right atrium and resulting in right atrial and ventricular volume overload. An urgent referral to a Cardiothoracic Surgeon led to immediate surgical repair. Post-surgery, his condition progressively improved. This case was concluded to be a ruptured SOVA triggered by a recent bacterial infection.

Discussion: Ruptured SOVA is an uncommon cause of acute heart failure. Diagnostic imaging, primarily transthoracic and transesophageal echocardiography, is essential. In cases of ruptured SOVA, color Doppler can identify flow through the shunts. Additional imaging techniques such as magnetic resonance imaging (MRI), contrast aortography, and cardiac computed tomography (CT) serve as confirmatory or supplemental tests. The primary treatment for ruptured SOVA is surgical intervention.

Conclusion: Ruptured SOVA should be considered in the differential diagnosis of acute heart failure in previously healthy young adults.

Keywords: Ruptured Sinus of Valsalva Aneurysm

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

052

HOLIDAY TURNED NIGHTMARE: IMMERSION PULMONARY EDEMA AFTER SEA- WALKING

Chee HY[1], Tan PL[1]

[1]*Hospital Queen Elizabeth, Kota Kinabalu, Sabah*

Introduction: Immersion pulmonary edema (IPE) is a rare and underrecognized condition that can develop in a patient who was involved in scuba diving, snorkeling, or surface swimming. We would like to report on a lady who presented with pulmonary oedema after sea- walking in Sabah during her vacation.

Case description: A 59-year-old lady with underlying well controlled systemic lupus erythematosus (SLE), diabetes and hypertension presented with sudden onset shortness of breath, cough and pleuritic chest pain after sea- walking in one of the island near Kota Kinabalu. Upon presentation, the patient was tachypneic with an oxygen saturation of 70% and generalized crepitations during lung auscultation. There was no pedal edema to suggest a chronic etiology of fluid overload in addition to a normal renal and liver function test. Furthermore, the patient's electrocardiogram showed no signs of myocardial ischemia and her troponin I level was 40. Her chest x-ray showed features of pulmonary edema which was further supported by bedside ultrasound demonstrating B lines and a heart with impaired ejection fraction. She was managed with oxygen therapy (continuous positive airway pressure) and diuretics in emergency department. CTPA done revealed no evidence of pulmonary embolism and lung features of pulmonary edema. Her oxygen therapy was gradually tapered off and she was discharged well after 2 days.

Discussion: Sea- walking is a watersport where the person involved wears a helmet with oxygen supply and descends gradually to the seabed (approximately 5 meters deep) and walk around for 30 minutes. The depth involved makes decompression sickness unlikely in this case. Pathophysiology of IPE is postulated to be due to immersion effect causing rapid distribution of blood from the extremities to the thorax, thus causing an increase in the pulmonary vasculature pressures. Patients with hypertension and of the female gender were found to have a higher prevalence in developing IPE.

Conclusion: IPE is an underrecognized pathology in swimming and scuba diving activities. IPE should be differentiated from other diving related pathologies as systematic hyperbaric oxygen therapy is not required in the treatment of IPE.

Keywords: Immersion pulmonary edema, sea- walking

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

053

BLUNT LARYNGOTRACHEAL TRAUMA: AN ADRENALINE RUSH INDUCED AIRWAY MANAGEMENT

Nurul Najwa Othman[1], Azizul Hafiz Abdul Aziz[2]

[1]*Emergency and trauma department, Hospital Sungai Buloh, Selangor, Malaysia*

[2]*Emergency and trauma department, Hospital Teluk Intan, Perak, Malaysia*

Introduction: Blunt laryngotracheal trauma is rare but precarious, accounting for only 0.3% of trauma presentations, with mortality as high as 40%. It can result from various mechanisms such as traffic accidents (TA), falls and hanging attempts. A high index of suspicion is required as 33% can initially be asymptomatic posing a life- threatening treat in airway management.

Case description: A 55-year-old Indian gentleman was involved in TA and presenting to Emergency Department (ED) for hoarseness of voice and neck discomfort. Otherwise, he ambulates with few abrasion wounds on shoulder. Upon returning from radiograph, he deteriorates while having dyspnea and hemoptysis immediately rushed to resus zone for airway obstruction. Cervical xray reviewed showed extensive subcutaneous emphysema with hyoid bone fracture. Eventually, he was intubated for airway control with glidescope while ENT on standby. During intubation noted pooling of blood on vocal cord with anatomical distortion. First attempt Intubation success with bougie assistance and gentle suction. No episode of desaturation monitored as passive apnoeic oxygenation was applied with nasal prong 15litre/min, preoxygenation with HFM 15litre/min and titrated dosage of ketamine. Bilateral chest tube was inserted for extensive subcutaneous emphysema. He was haemodynamically stable throughout ED stay prior ICU admission.

Discussion: The hallmark of airway management is maintenance of spontaneous ventilation, intubation under direct vision to avoid false passage creation and avoidance of both intermittent positive pressure ventilation and cricoid pressure during rapid sequence intubation. For the uncooperative time-critical patient with inadequate pre-oxygenation, a delayed sequence induction is recommended with two-person technique, usage of small boluses of ketamine to achieve sedation, preserve airway reflexes, and maintain spontaneous breathing. Once sedation is achieved, is recommended to apply tight fitting high flow mask with oxygen flow rate to 15 L/min. To support apnoeic oxygenation, nasal specs at minimum rate of 10 L/min should also be applied prior to induction and throughout intubation.

Conclusion: It is advisable for clinicians to consolidate their knowledge through mechanisms such as high-fidelity simulation training and by attending workshops specifically for the management of airway trauma.

Keywords: Laryngeal trauma, airway management

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

054

THICKENING OF PARATRACHEAL STRIPE: SUBTLE BUT CARDINAL

Nurul Najwa Othman[1], Azizul Hafiz Abdul Aziz[2], Nur Asmihan Mat Esa[3]

[1]*Emergency and trauma department, Hospital Sungai Buloh, Selangor, Malaysia*

[2]*Emergency and trauma department, Hospital Teluk Intan, Perak, Malaysia*

[3]*Radiology department, Hospital Kuala Lumpur, Malaysia*

Introduction: Despite the continuing efforts, the mortality rate for acute type A aortic dissection remains relatively high. Conventional risk factors include family history of aortic disease, connective tissue disease, smoking, substance abuse, diabetes mellitus and aging. As aortic dissection presentation mimics a lot of disease, sound knowledge of certain uncommon radiographic features will help in early detection and lead further management.

Case description: A 16-year-old Indian boy without comorbid, presented with right sided pricking type of chest pain for 1hour and feeling nausea. He was having an episode of presyncope attack at home that become concerning factor presented to emergency department (ED). Otherwise, no other remarkable symptoms on note. He denied the use of tobacco, recreational drug or steroid. He was estimated 170cm tall and 60kg weight (BMI 20.8), no marfanoid traits, vital signs within normal range and unremarkable systemic examination. ECG shown sinus rhythm. Unfortunately, upon returning from radiograph, he collapsed on ED corridor and was brought to resus immediately. He was gasping, had short duration jerking like movement with soft blood pressure. He was then resuscitated as per protocol. POCUS done revealed all normal findings except right pleural effusion. Investigation wise, noted dropping of 3g Hb within 40mins interval. Gradually, he deteriorated to few episodes of PEA and succumb after 1 hour of resuscitation. Postmortem revealed ruptured thoracic aorta dissection with 1-litre right hemothorax.

Discussion: There are well known chest radiograph features suggesting of aortic dissection including widened mediastinum, involution of mainstem bronchus, pleural effusion, tracheal and esophageal deviation while uncommonly feature as thickening of paratracheal stripe. Normal x-ray finding may occur as high as 20% of case. Initial chest radiograph done void most of above features except widened mediastinum which difficult to commit factoring rotation. However, the presence of thickening paratracheal stripe as frequently overlooked uncommon feature become cardinal giving an ultimate clue the reason of collapsing patient.

Conclusion: ED personnel should have sound knowledge regarding certain radiological features that identic to life- threatening disease including atypical ones. It may look subtle, but it is cardinal to preserve life.

Keywords: Paratracheal stripe, aortic dissection

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

055

A CASE OF TRAUMATIC INTUSSUSCEPTION

Nur Adilah Soddri[1], Muhammad Naeem Ali[1], Shamsul Anuar Asmee[1], Amrita Kaur Seera a/p Harapajan Singh[1].

[1]*Emergency and Trauma Department, Hospital Kulim, Kedah*

Introduction: Intussusception is a life-threatening condition in which a segment of the intestine telescopes into another part. Early diagnosis results in an excellent prognosis, but delays can cause severe complications and death. Causes can be idiopathic, related to certain medical conditions, or secondary to a lead point. Trauma as a cause is rarely mentioned in medical literature, potentially leading to delayed diagnosis by physicians. We report a case of traumatic intussusception that were initially manage in our emergency department.

Case report: Following a fall from bicycle, a 6 years old boy presented with right upper abdominal pain. His vital signs were normal and examination was unremarkable except for tenderness over right upper quadrant of abdomen. His serial EFAST were negative and all other blood parameters were normal. Even though he was admitted for observation, he was discharged the following day as his pain subsided. However, on the sixth day post-trauma, he returned to the emergency department with aggravated right upper abdominal pain and vomiting. Examination revealed a sausage shape palpable mass over right upper quadrant but no evidence of peritonism. Ultrasound imaging demonstrated sonographic evidence of a long segment colonic intussusception. The surgical team manage to performed hydrostatic reduction, successfully resolving the intussusception. The child was discharged the following day in excellent condition, with no complication or recurrence observed.

Discussion: Traumatic intussusception is a rare occurrence, with few documented cases in medical literature. It may result from an intramural hematoma induced by blunt abdominal trauma. Other potential causes of traumatic intussusception include peristalsis disorders, local spasms, and bowel edema, although in some instances, the exact etiology remains unidentified. Admission for observation, early ultrasound assessment and serial abdominal examination can facilitate prompt diagnosis and timely intervention. Given the potential for delayed presentation in cases of traumatic intussusception, early outpatient follow-up should be considered to avoid missed diagnoses.

Conclusions: Although traumatic intussusception is a rare entity, it is imperative for physicians and surgeons to remain vigilant regarding its presence. Early diagnosis is paramount to prevent potential complications, as emergent surgical intervention remains the preferred treatment approach.

Keyword: Traumatic intussusception

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

056

"MOMMY, I AM IN PAIN!"

A CASE OF ATYPICAL PRESENTATION OF GUILLAIN-BARRÉ SYNDROME IN A PAEDIATRIC PATIENT

Intan Masturah Che Ghani[1], Rahaizah Rani[1], Nur Farah 'Aqilah Sabdin[1]

[1]*Emergency and Trauma Department, Hospital Sultan Zainal Abidin, Kuala Nerus, Terengganu*

Introduction: Guillain-Barré syndrome (GBS) is the commonest cause of acute flaccid paralysis in paediatrics population. This is a case report of a child with atypical presentation of GBS, resulting in delayed treatment.

Case Description: A 9-year-old girl experienced a frontal headache for a month, was brought to the nearest clinic and subsequently treated as outpatient and scheduled for a computed tomography (CT) of the brain. Three days later, she returned to the same clinic due to left sided facial pain with drooping of left eyelid leading to an Emergency and Trauma Department referral. Further questioning revealed the child had multiple falls over the past month. Examination showed a child with unsteady gait and multiple cranial nerve abnormalities confined to the left side, including ptosis, trigeminal hyperalgesia, facial asymmetry and weakness in opposing eye opening. However, limb examinations were unremarkable. Blood parameters and non- contrast CT brain were normal. She was admitted with a diagnosis of facial nerve palsy with trigeminal neuralgia.

After day one of admission, she developed progressive limb weakness and neuropathic pain over left upper limb and bilateral lower limbs with exaggerated deep tendon reflexes. An urgent Magnetic Resonance Imaging (MRI) of the brain and spine was unremarkable. Following five days in the hospital, the patient was unable to walk and had absence of deep tendon reflexes. Her nerve conduction study findings were consistent with GBS. She was treated with intravenous immunoglobulin (IVIG) for two days and responded well.

Discussion: GBS can present variably in paediatric patients causing diagnostic delay. Patients can present with muscle/radicular pain, cranial nerve palsy and sensory disturbance, as well as autonomic dysfunction. Children who have severe pain may refuse to walk or manifest as unstable gait which can be interpreted differently. In initial stage, patients may have normal or exaggerated reflexes, but later they might develop reduced or absent reflexes. Our case emphasizes the importance of early recognition of atypical presentation of GBS for timely IVIG treatment.

Conclusion: Prompt recognition and investigations are crucial to establish the diagnosis of GBS, thereby averting potentially life-threatening complications.

Keywords: Guillain-Barré syndrome, Facial nerve palsy, Trigeminal neuralgia

057

NEUROLEPTIC MALIGNANT SYNDROME AS A RESULT OF ABRUPT CESSATION OF CLOZAPINE.

Krishna Kumar[1], Nur Aisyah Ishak[1], Alzamani Mohammad Idrose[1], Pak Jun Wee[1]

[1]*Emergency Department, Hospital Kuala Lumpur*

Introduction: Neuroleptic malignant syndrome (NMS) can be caused by the usage of anti-dopaminergic drugs which are typically used in psychiatric patients. We report such a case that presented with the syndrome not due to the drug toxicity but from the sudden cessation of the drug usage.

Case Presentation: 39 Malay lady with underlying schizophrenia brought in by her mother after found unresponsive and was sleeping excessively for past 2 days. Patient was tachycardic at 135 bpm with temperature of 39.3 degrees Celcius. Capillary blood sugar was 6.8 mmol/L. Both pupils were normal in size and reactive. Patient's GCS was noted to be 11/15 (Eye 4, Verbal 2 and Motor 5). Noted bilateral upper limb and lower limb rigidity with normal neurological reflex. Upon further questioning, patient was on tablet clozapine 125 mg on morning and 450mg on night and the drug administration was controlled by the mother. However, past 2 days, patient did not take the drugs. After patient was given IV Diazepam 5 mg, her GCS improved to 14 (E4V4M6) and rigidity improved. Investigation wise, phosphate level was low at 0.4 mmol/L. Urea was 5.7 mmol/L and creatinine 119 ummol/L and creatinine kinase was 652 U/L. Diagnosis of neuroleptic malignant syndrome (NMS) was made.

Patient was subsequently admitted and regained full GCS in the ward. The anti-psychiatric medications were restarted in the ward and patient was discharged well with follow up planned by the psychiatric team.

Discussion: Clozapine, an antidopaminergic drug is involved in multiple neurotransmitter mechanism so when abrupt cessation causes cholinergic rebound symptoms.

NMS symptoms typically present within 2 days of cessation of the drug as seen in our case. However, there are other conditions that can mimic NMS such, meningitis, encephalitis, salicylate overdose, serotonin syndrome. Early detection NMS is important to avoid serious complications such rhabdomyolysis causing renal failure, seizure, and cardiac arrhythmias.

Conclusion: This case illustrates that NMS can occur not only as a side-effect of anti-dopaminergic drug (in this case clozapine) but also abrupt withdrawal of the drug. The cause of this condition was not due to drug toxicity but instead it's cessation.

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

058

EFFECTIVENESS OF MIDAZOLAM COMPARED TO DIAZEPAM IN SEIZURE CONTROL

Krishna Kumar A/L Antrean

Emergency Department, Hospital Kuala Lumpur

Introduction: Benzodiazepine plays important role in early control of seizure especially in paediatric population. We report a case on the effectiveness of benzodiazepines such as diazepam and midazolam in early cessation of fitting.

Case Presentation: 1 year 2 months old boy weighing in 10kg brought in for generalized tonic clonic seizure for duration of 3 minutes at home till arrival to emergency department. He has temperature of 39.1c heart rate of 165 beats/min, respiratory rate of 50 breaths per minute, dxt of 9.1 and spo2:70% under room air. The toddler was immediately put on HFM 15l/min and then given suppository paracetamol 150 mg and suppository diazepam with total of 10 mg but no resolution of the fitting. However, after Iv midazolam 2mg given in slow bolus, the seizure aborted. Total duration of fitting is about 8 minutes. Post ictally, the toddler regains consciousness, crying, but still drowsy. Upon further questioning from mother, this child was delivered prematurely via caesarean section. The child was also having high grade fever for past 2 days, on regular paracetamol with diarrhoea, vomiting and reduced oral intake for 1 day. His white cell count was 8 x10^9/L, urea 4.9mmol/L, sodium 139 mmol/L, creatinine of 29 umol/L. Currently he was treated as complex febrile fit with acute gastroenteritis with 5% dehydration. He was given IVD maintenance NSD5% 40cc/H with 5% correction of 21cc/H/24H and remain fit free and saturating well under room air. He was later admitted to paediatric ward.

Discussion: In studies shown, for seizure cessation, midazolam by any route was superior to diazepam. In this case midazolam cause cessation of fitting compared to diazepam. It is reported that oral and intramuscular route of midazolam is as effective as intravenous administration of diazepam. Midazolam is preferred due to its rapid onset, short time to peak effect and short duration of action.

Conclusion: This case illustrates early seizure control is needed to reduce risk of morbidity and mortality. So, the best type of benzodiazepine such as midazolam is preferrable compared to diazepam as the 1st choice for immediate seizure cessation regardless of the route of administration.

059

ROLE OF HYDROXYUREA IN PAIN MANAGEMENT OF SICKLE CELL DISEASE PATIENT.

Krishna Kumar A/L Antrean

Emergency Department, Hospital Kuala Lumpur

Introduction: Vaso-occlusive crisis occurs when microcirculation is obstructed by sickled RBCs, causing ischemic injury to the organ, and resulting pain. We report such a case where pain management is given together with hydroxyurea.

Case Presentation: 24 years old Nigerian gentleman with underlying history of sickle cell disease (HB analysis January 2018: homozygous Hb S presented to emergency department with high grade fever associated with severe bone pain at shin area over right lower limb for 2 days without recent history of trauma or injury. On further history, he has history of motor vehicle accident 4 years ago in Nigeria and sustained closed undisplaced right femur and tibia-fibula fracture, treated conservatively with cast and no plating. On examination abdomen is soft, no hepatosplenomegaly, and no swelling, no open wound over anterior shin of right leg with circulation intact. Adequate fluid given intravenously. For pain management regular oral morphine 2.5mg 4 hourly and oral hydroxyurea 1g once daily was given, where his pain reduced significantly. Blood investigation wise, white cell count; haemoglobin: 10.4 g/dl, platelet 637 x10^9 /L with retic count 413.7 x10^9/L(11.9%). X-ray of tibia-fibula showed malunion, periosteum reaction mid tibia with osteoporotic bone but no new fracture seen. Full blood picture showed, hypochromic microcytic anaemia with reticulocytosis, presence of target cells, boat-shaped cells, sickle cells and presence of Howell-jolly bodies. It also showed leucocytosis with lymphocytosis but no blast cells. Patient was treated as veno-occlusive crisis of right lower limb with underlying sickle cell anaemia. He referred to medical team and planned for medical ward admission.

Discussion: Based on studies, Hydroxyurea is a myelosuppressive agent is the only effective drug proven to reduce frequency of pain in sickle cell disease. In this case, analgesia was given together with oral hydroxyurea to reduce the symptom of pain.

Conclusion: This case illustrates that hydroxyurea should be given together with analgesia as a complete pain control in treatment of vaso-occlusive crisis and to reduce frequent hospitalization in sickle cell disease.

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

060

OVARIAN VEIN HEMORRHAGE FOLLOWING TRAUMA: A CASE REPORT

Govinda Ram Prema Suhanya Muniandy[1], Shamini Sangasamy[1], Shaliny Manikam[1]

[1]*Emergency & Trauma Department, Hospital Sultan Idris Shah, Serdang, Selangor*

Introduction: Ovarian vein hemorrhage is a rare yet potentially life-threatening consequence of abdominal trauma. This case report highlights the challenges encountered by the emergency team in diagnosing and managing such case.

Case presentation: A 63-year-old woman presented to Emergency Department (ED) following a collision with a motorbike while walking along a roadside. She complained of lower abdominal pain, dizziness, and expressed desire to rest. She was nauseated and vomited multiple times. She was hypotensive and tachycardic. Physical examination revealed a soft abdomen with multiple bruises on bilateral hip region. Initial assessment, including Focused Assessment Sonography (FAST), did not detect any free fluid. Due to suspicion of pelvic instability, she was promptly placed on a pelvic binder. Pelvic x-ray revealed bilateral superior and inferior pubic rami fractures. Computed Tomography (CT) of the abdomen and pelvis revealed tortuous and dilated bilateral ovarian vein with extravasation indicating active hemorrhage and resulting retroperitoneal hematoma and hemoperitoneum.

Discussion: Ovarian vein hemorrhage following trauma represents a rare but potentially life-threatening condition that warrants careful consideration due to its unique pathophysiology and diagnostic challenges. While abdominal trauma typically involves more commonly recognized sources of bleeding such as solid organ injury, ovarian vein should be included in the differential diagnosis, particularly in cases of unexplained hypotension or ongoing hemorrhage. Blunt abdominal trauma or pelvic fractures can directly injure the ovarian vein or indirectly cause stretching or tearing of the vessels due to sudden changes in intraabdominal pressure.

In our case, initial assessment findings, including negative FAST examination and bilateral pubic rami fractures on pelvic x-ray, did not raise suspicion for ovarian vein hemorrhage. However, persistent hypotension prompted further evaluation with CT imaging, revealing ovarian vein injury. This highlights the importance of high index of suspicion in cases of unexplained hemodynamic instability following trauma.

Conclusion: Ovarian vein hemorrhage following trauma is rare but potentially life-threatening condition that requires prompt recognition and intervention. High index of suspicion in case of unexplained hypotension or ongoing hemorrhage, particularly when standard imaging modalities yield inconclusive results is important. Early detection and appropriate resuscitation are paramount in preventing adverse outcomes and ensuring favorable patient outcome.

Keywords: Ovarian vein hemorrhage, trauma

061

"DECIPHERING THE CULPRIT: ORIGINS OF NON-CARDIOGENIC ACUTE PULMONARY OEDEMA IN OPIOID TOXICITY – OPIOID-INDUCED OR NALOXONE-RELATED?"

Muhammad Harith Hazmi Zaini[1], Shahira Ruslan[1], Grace L.W.C[1]

[1]*Emergency and Trauma Department, Hospital Sultanah Maliha, Langkawi, Kedah.*

Introduction: Non-cardiogenic Acute Pulmonary Oedema (APO) is a rare but potentially fatal complication of opioid toxicity with naloxone as its antidote. Despite its safe nature, naloxone administration can also cause APO. We report a case of high dose naloxone administration in a methadone toxicity causing worsening APO.

Case Presentation: A 57-year-old gentleman was brought to our casualty after he was found unconscious after consuming 100mls of self-purchased Methadone. In ED, his GCS was 3 with bilateral pinpoint pupils. Respiratory rate was 6 with bi-basal crepitations and spo2 of 82%. Urine toxicology was positive for Methadone. IV Naloxone 2 mg was given twice. Subsequently, GCS improved to E3V4M6 with respiratory rate of 16. Patient required a 3rd dose of IV Naloxone 2 mg after 30 mins.

Subsequently, he desaturated and developed worsening crepitation up to midzone. CXR showed congested lung field and bedside ultrasound showed worsening bilateral B-lines up to mid-zone with good cardiac contractility. Patient was started on Non-invasive Ventilation and given IV Furosemide 40mg. He was admitted to ICU and completed 12 hours of Naloxone infusion. Oxygen supplement was able to be tapered down and he was discharged after 4 days.

Discussion: Opioid overdose causes APO by inducing histamine release, hypoxia, and acidosis resulting in increased permeability of the pulmonary vasculature. APO secondary to naloxone is postulated to be due to unrestricted catecholamine surge causing pulmonary vasoconstriction and hypertension. Return of the respiratory drive resulting in inspiration against an obstructed glottis also precipitates negative pressure APO. The recommended dose of naloxone is 0.4-2 mg. Incidence of naloxone induced APO is higher when a higher or repeated doses of naloxone is used. In this patient, repeated high doses of naloxone might have caused worsening APO. Infusion of Naloxone might have been better, it has been shown to prevent recurrence of opioid induced respiratory depression, with lower risk of side effects.

Conclusion: Both opioid overdose and the administration of naloxone can trigger APO. Early initiation of naloxone infusion over repeated high doses of naloxone might be more beneficial especially in a long-acting opioid toxicity such as Methadone.

Keywords: Opioid, Naloxone, APO

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

062

THROUGH THE BACKDOOR: AN UNUSUAL JOURNEY OF PERITONEAL DIALYSIS CATHETER

Athifah Abdul Aziz[1], Muhammad Affan Syafiqi Hasnan[1], Rahaizah Rani[1], Azlie Hassan[1], Nik Ahmad Shaiffudin Nik Him[1], Nik Arif Nik Mohamed[1],

[1]*Hospital Sultan Zainal Abidin, Terengganu, Malaysia.*

Introduction: It is not an uncommon event in peritoneal dialysis (PD) catheterization for PD in end stage renal disease (ESRD) patient to acquire peritonitis, outflow failure, malposition, and leakage. This unfortunate case highlights a rare but serious complication: of small bowel perforation presenting as catheter tip protrusion from the anus.

Case Description: A 61-years-old lady with ESRD on PD for 2 years presented to Emergency department with a foreign body protruding from her anus. She underwent reinsertion of PD catheter one week prior the admission after removal of catheter due to peritonitis. She denied any clinical features of sepsis or intra-abdominal injury apart from mild abdominal pain. An urgent plain abdominal X-ray revealed a migrated PD catheter up to the anal region. She underwent emergency laparotomy proceed with small bowel resection, primary anastomosis, primary rectal repair and peritoneal washout. Intraoperatively, it was found that the catheter had punctured a loop of the small bowel before perforating the anterior upper rectum. Post operatively, she was well with no complications and had been converted to hemodialysis.

Discussion: Bowel perforation occurs rarely in about 1% of patients, usually during the catheterization, suspected with the onset of pain, nausea or a rigid abdomen. Delayed perforation can occur, often involving a prolonged unused catheter. In this case, the patient was expected to have sign and symptoms of peritonitis with the degree of bowel perforation however she presented with catheter protrusion from anus, a complication seen more in a dormant catheter. Diagnosing bowel perforation is straightforward when the catheter protrudes through the anus, but, if peritonitis signs are present, distinguishing between a PD-related cause or a bowel perforation can be challenging.

Conclusion: Emergency healthcare provider (ECP) must bear in mind that even if bowel perforation is a rare complication of PD catheterization, it does occurs as illustrated above. Initial clinical presentation is subtle and only become obvious as the catheter protrude out thus all ECP should have high index of suspicion in patient presented with trivial abdominal pain post PD catheterization as urgent surgical treatment is crucial to save life.

Keywords: Intestinal perforation, peritoneal dialysis

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

063

BLOOD PLAYS HIDE AND SEEK: A RARE CASE OF RECTAL HEMATOMA IN ECTOPIC PREGNANCY

Ahamad Hussain Shaik Mohamed[1], Ida Zaliza Zainol Abidin[1], Mohd Huzaimi Ngatingan[1]

[1]*Emergency and Trauma Department, Hospital Tuanku Fauziah, Kangar, Perlis, Malaysia*

Introduction: Ectopic pregnancy which arises from the abdominal cavity is rare and associated with higher morbidity and mortality. Patients often have atypical presentation which lead to misdiagnosis. We present a case report of rectal hematoma in a suspected ruptured ectopic pregnancy patient.

Case Description: We present a case of 38 years old women with underlying hypothyroidism at 4 weeks of amenorrhoea presented with giddiness and abdominal pain. Upon arrival at the Critical Zone, she was alert but pale and tachypneic. The oxygen saturation was 100% on high flow mask with heart rate of 100 bpm and blood pressure of 112/68 mm Hg. The abdomen was soft but mildly distended. Trans abdominal scan (TAS) done revealed free fluid at Morrison's pouch and suprapubic area. The initial blood gases showed pH 7.487, HCO3 21.4mmol/L, lactate level 2.7mmol/L. The initial Hb level was 12.0g/dl. The case was immediately referred to Obstetrics and Gynecology (O&G) Department for ruptured ectopic pregnancy. However, while being reviewed by O&G department, the patient deteriorated and turned pulseless. Red Alert Code was activated, and patient was successfully resuscitated. Emergency laparotomy was done by General Surgeon and Gynecologist. The intraoperative finding was a ruptured hematoma at the anterior rectum with total estimated blood loss of 4.5 Litre.

Discussion: Ectopic pregnancy is when a fertilized egg implants itself outside the uterine cavity, usually in one of the fallopian tubes. In rare circumstances, ectopic pregnancies could implant in the abdominal cavity. The peculiarity of diagnosing rectal ectopic pregnancy makes it difficult to manage and therefore it is associated with higher morbidity and mortality. Rectal bleeding is an extremely rare complications of an ectopic pregnancy as seen in this case. In this case, the patient presented with giddiness and abdominal pain without rectal bleeding. Our case illustrated that rectal pregnancy, is remarkably difficult to diagnose. At emergency department level, clinician need to be aware of the possibility of gestational sac between the uterus and the rectum.

Conclusion: There is a need for thorough history and physical examination and added ultrasound to guide a diagnosis of rectal ectopic pregnancy.

Keywords: ectopic pregnancy, rectal bleeding.

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

064

AN UNEXPECTED COMPLICATION OF BMAT

Amirah Azman[1], Muhammad Aslam Ayob[1]

[1]*Emergency and Trauma Department, Hospital Raja Perempuan Zainab II, Kota Bharu, Kelantan*

Introduction: Bone marrow is situated within the spongy tissue of larger bones. It serves as the primary site for blood cell production. The bone marrow aspiration and trephine biopsy (BMAT) is generally a safe procedure for diagnosing various haematological conditions such as cancers, metastatic diseases, and storage disorders. It is typically involving sampling from the pelvic bones, particularly the iliac crest. We report a case of unexpected complication of BMAT.

Case Report: A 76-year-old man with multiple comorbidities underwent elective BMAT at a medical daycare facility. Post-procedure, he complained of lower abdominal pain. Blood was observed in the urinary catheter tubing. Patient then was referred to emergency department. Haemodynamically, patient was hypotensive with low haemoglobin level. He was resuscitated with 2 pints packed cell and 4 units of fresh frozen plasma. Bedside ultrasound revealed a suprapubic mass with minimal free fluid around the bladder, but no hematoma at the puncture site. Proceed with CT imaging, showed pelvic haematoma with evidence of active bleeding likely from the right external iliac vein. Follow-up imaging showed a slightly larger hematoma but no active bleeding or bladder injury. Case was referred to urology team.

Discussion: BMAT is generally safe but can rarely lead to complications like haemorrhage, soft tissue trauma, or infection. Bleeding from the right external iliac vein post-BMAT is exceptionally rare but potentially serious, necessitating immediate measures to control bleeding and stabilize the patient, including possible surgical intervention and blood transfusions [(1)]. Further evaluation may be required to assess the extent of vascular injury and long-term complications, typically through imaging studies such as ultrasound or CT imaging. Preventing such complications involves careful site selection to minimize vascular injury risk. Initial ultrasound assessment was useful as it was widely available and non- invasive to assess the complications of vascular injury such as intra or retroperitoneal haematoma. Meanwhile, CTA is the gold standard.

Conclusion: BMAT complication of vascular injury is extremely rare. Presence of haematoma and free fluid by ultrasound raised the suspicious of vascular injury in BMAT procedure. Early detection by ultrasound can initiate prompt and definitive treatment in optimizing patient outcomes and preventing further complications.

065

UNEXPECTED ENCOUNTERS: A TALE OF PENETRATING NECK TRAUMA AND VASCULAR FISTULA

Mohd Nor Ikhwan Md Adzha[1], Mohd Rafeek Mohd Ismail[1], Zainal Effendy Zainal Abidin[1]

[1]*Emergency & Trauma Department, Hospital Sultan Abdul Halim*

Introduction: Traumatic injuries affecting the neck vasculature are rare but demand immediate attention due to their potential life-threatening complications. Recent studies have highlighted the diverse clinical presentations and etiologies such as high-energy blunt or penetrating trauma.

Case: This is a case of a 43-year-old male who presented with sudden onset of pain, swelling and bleeding at right neck while hammering steel at work. He also experienced sharp pain and tightness of right upper limb, along with hoarseness of voice. Neck examination revealed diffuse swelling at zone 1 and 2 of right neck. There was a small puncture wound at the anterior border of right sternocleidomastoid muscle with minimal oozing of blood which was stopped by direct compression. There was also palpable thrill and bruit on auscultation. Neurological examinations of upper and lower limbs were otherwise intact. Despites all the findings, the patient was hemodynamically stable and not in respiratory distress. Patient was started on intravenous drip and antibiotic and was referred to surgical and ENT team. Bedside flexible scope done by ENT team showed right vocal cord palsy with no other abnormalities. Subsequently, computed tomography angiography (CTA) was done and revealed traumatic right internal jugular vein-common carotid artery fistula communication with a radio-opaque foreign body at right foramen transversarium of C5/C6 level and focal injury at surrounding soft tissues. The patient was transferred to Hospital Kuala Lumpur for urgent surgical intervention under vascular and neurosurgery teams.

Discussion: This case underscores the importance of vigilance in diagnosing such injuries, even in the absence of overt hemodynamic instability. Precise clinical examinations, including thorough neck and neurological assessments, are pivotal in identifying subtle signs indicative of vascular injury such as palpable thrill and bruit. Effective clinical decision-making is vital in cases of penetrating neck injury. In cases where haemodynamic instability or presence of hard signs, the patient should bypass imaging and immediately undergo operative exploration. However, this practice may vary according to availability of resources at local setting.

Conclusion: This case emphasizes the importance of precise clinical evaluation in managing rare penetrating neck trauma. Timely intervention facilitated a favourable outcome, highlighting the significance of a multidisciplinary approach in optimizing patient care.

Keywords: traumatic, vascular, fistula.

066

BEYOND BEAUTY - SILICONE EMBOLISM SYNDROME

Loke Wei Cheng[1], Muhamad Faiz Mohd Fauzi[1], Mardhiah Binti Jusoh[1]

[1]*Emergency Department, Penang General Hospital, Malaysia*

Silicone embolism syndrome (SES) is a known adverse complication of silicone injection which may be potentially fatal. We present a case of SES in our center as this case might be easily missed if crucial history of augmentation was not obtained.

Case description: A 25 year old lady, revisited the emergency department (ED) within 24 hours with the complaint of fever, cough and worsening shortness of breath for 2 days and new onset of rashes seen over the trunk and breast region.She was discharged with the diagnosis of community acquired pneumonia on the first visit. She disclosed that she underwent breast filler injection a day prior to symptoms onset.

She was alert ,febrile, normotensive, tachypneic and tachycardic. Clinical examination revealed petechial rashes over bilateral conjunctiva and trunk. There were small puncture wounds noted over the upper outer quadrant of her breasts. Lungs auscultation was normal and other systemic examinations were unremarkable.Arterial blood gas under room air revealed type 1 respiratory failure. Computed Tomography Pulmonary Artery (CTPA) showed multifocal consolidation with surrounding ground glass opacities predominantly bilateral peripheral lung fields.

She was started on nasal prong oxygen and intravenous drip, was admitted to ICU for 2 days. In ward she developed hemoptysis with evidence of pulmonary hemorrhage noted in repeated CT and Bronchoscopy, then she was started on Methylprednisone. She was eventually discharged with tapering dose oral prednisolone after a total of 11 days of admission and follow up at respiratory clinic.

Discussion: Presenting symptoms of SES are non specific, mainly: hypoxia, dyspnea, fever, alveolar hemorrhage and cough. Adverse effects are noted to develop between minutes to days following the silicone injection. Majority of SES cases are diagnosed with CTPA, in convention to rule out pulmonary embolism, showing findings similar to fat embolism syndrome. Mainstay treatment for SES is supportive care. The use of corticosteroid is controversial and administered after weighing risk and benefit.

Conclusion: SES is not uncommon for those who receive breast filler injection and can be lethal if not treated promptly. Symptoms of SES are not specific, therefore detailed history taking and meticulous physical examination are paramount in detecting SES in ED.

Keywords: Dyspnea, silicone embolism syndrome, ARDS

067

ANAEMIC HYPOXIA: METHEMOGLOBINAEMIA CAUSED BY DELIBERATE INGESTION OF PESTICIDES

`Ayunni Nazirah Abdul Razak[1], Shi Qi[1], Hamizah Kamaruddin[1], Muhammad Khidir Mohd Kamil[1]

[1]*Emergency and Trauma Department, Teluk Intan Hospital, Perak*

Introduction: Methemoglobinaemia is a potentially fatal disorder where ferrous part of heme is oxidized to ferric form which results in decreased oxygen-carrying capacity of haemoglobin. There are multiple known causes of drug-induced methemoglobinaemia of which pesticides are rare and less reported.

Case description: A 33-year-old woman presented to the emergency department with alleged deliberate ingestion of pesticide that she found near the paddy field. She complained of vomiting and dizziness six hours post- ingestion. Upon arrival, vital signs revealed a blood pressure of 142/80 mmHg, a heart rate of 114 beats/min, and a respiratory rate of 20 breaths/min. Her oxygen saturation was 87% in room air, and despite wearing a non-rebreather mask at 15 L/min, her saturation remained below 90%. Generally, the patient appeared mildly tachypneic and cyanosed with a slat-grey tongue. Other physical examinations were unremarkable. Her arterial and venous blood were chocolate brown in colour. Her arterial blood gases (ABG) revealed SaO_2 of 94.8% and PaO_2 of 75.8 mmHg in room air with lactate of 2.2 mmol/L. The discrepancy between PaO_2 and SpO_2 and the failure of SpO_2 to improve with conventional oxygen therapy raised the suspicion of methemoglobinemia. This was confirmed by serum MetHb level of 58.2%. She was administered 2 mg/kg IV methylene blue. After treatment, the patient developed maple-green-coloured urine. The patient gradually recovered, and her saturation improved to 99.6%.

Her tongue mucosa turned pink, and her blood changed to red in colour. The repeated MetHB level prior to ward admission was 7.9%.

Discussion: Normal methemoglobin levels are less than 2%. Methemoglobinaemia causes tissue oxygenation to decrease, and cyanosis may develop with the shift of the oxygen-dissociation curve to the left. Commonly implicated pesticides include indoxacarb, aluminium phosphide, and paraquat. Magnesium nitrate is the inert ingredient used as a preservative in some pesticides that can cause methemoglobinemia. The mainstay of the treatment is methylene blue in non-G6PD-deficient patients.

Conclusion: Pesticide poisoning is a rarely reported cause of acquired methemoglobinaemia. Timely suspicion and early management are crucial to prevent complications and mortality.

Keywords: Methemoglobinemia, methylene blue.

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

068

THE DEADLY REVERSE FLOW: CEREBRAL ABSCESS AS A TERMINAL NEUROLOGICAL SEQUALAE IN EISENMENGER SYNDROME

`Ayunni Nazirah Abdul Razak[1], Shi Qi[1], Fazlina Jerman[1], Mohd Anizan[1], Muhammad Khidir[1]
1Emergency and Trauma Department, Teluk Intan Hospital, Perak

Introduction: Eisenmenger syndrome is a life-threatening manifestation of uncorrected congenital heart disease that initially causes a left to right shunt induces severe pulmonary arterial hypertension and eventually, results in reversal of the direction of shunting and cyanosis. Although cerebral abscess is a known complication, there are only 10 cases reported.

Case description: A 43-year-old female with Eisenmenger syndrome, double outlet right ventricle, and ventricular septal defect presented with altered sensorium followed by obtundation for a day. She had history of left sided upper and lower limb weakness for the past week associated with reduced oral intake and fever. She was tachycardic, cyanosed, severely hypoxic with 50 breaths/min and saturation of 63% in room air.

Her temperature recorded 39 °C. On examination, her Glasgow Coma Scale score was E1V1M4. Cardiovascular examination revealed pansystolic murmur loudest at lower sternum. Her power over both left upper and lower limb was 0/5. She was intubated and mechanically ventilated, and resuscitation was instituted. Contrasted computed tomography was performed which demonstrated right parietal multilobulated hypodense mass measuring 3.4 X 3.5 cm associated with midline shift, mass effect, vasogenic oedema, hydrocephalus, and cerebritis. Empiric intravenous ceftriaxone was initiated. Patient was subsequently referred for surgical procedure. In emergency department, patient required escalating dose of inotropes. Despite intense resuscitation, patient succumbed due to refractory septic shock and multi-organ failure.

Discussion: The pathophysiology of cerebral abscess in Eisenmenger syndrome is linked to a higher risk of paradoxical embolization-induced cerebral embolic events, which can result in the development of meningoencephalitis, intracranial abscesses, or mycotic aneurysm. Reversal of the shunt permitted blood to bypass the pulmonary macrophages. Abscesses > 2.5 – 3cm recommended for surgical intervention Only three cases of isolated organisms have been documented; two of these cases include Streptococcus anginosus, and one involves Propionibacterium propionicum.

Conclusion: We would like to highlight the rare occurrence of cerebral abscess associated with Eisenmenger syndrome that warrants prompt diagnosis and surgical intervention to improve patient outcomes.

Keywords: Eisenmenger syndrome, congenital heart disease, cerebral abscess.

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

069

MYSTERIOUS MYOCLONUS: A SURPRISE FROM SSRI

THE UNUSUAL FIT FOLLOWING SEROTONINE SYNDROME

Low Kai Wei[1], Nurul Liyana Idrus[1], Illiana Syahmun Bt Mohd Razally[1]

[1]*Hospital Bukit Mertajam, Pulau Pinang, Malaysia*

Introduction: Serotonin syndrome is a result from excessive serotonergic activity occurred through drug-drug interaction, therapeutic medication use or as a consequence of intentional overdose which usually present within 6 to 24 hours after ingestion of a serotonergic agent.

Case: We describe a case of a 19 years old lady with underlying Major Depressive Disorder (MDD) presented to casualty for alleged ingestion of 42 tablets Sertraline 50mg due to acute stress reaction. Patient complained of fever, diarrhea, excessive sweating, anxiousness and palpitation post ingestion. General examination showed hand tremor and rapid involuntary horizontal eye movement over bilateral eye. Neurological examination later also demonstrated hyperreflexia with myoclonus. In consistence with the history of recent drug overdose within 24 hours together with clinical manifestation of agitation, hyperthermia, tachycardia, diaphoresis, tremor, ocular clonus, hyperreflexia as well as myoclonus, Hunter criteria was fulfilled and patient was diagnosed with serotonin toxicity.

Patient was given intravenous crystalloids and kept for observation. Subsequently patient developed an episode of generalized tonic-clonic seizure lasted one minute which was aborted by intravenous Diazepam 10mg. Post seizure patient's Glasgow Coma Scale (GCS) regained full. Patient successfully discharged after 2 days of hospital stay with no seizure recurrence.

Discussion: Serotonin syndrome is a clinical diagnosis requiring high suspicion with a thorough history and physical examination. The Hunter criteria has high sensitivity and specificity in the diagnosis of serotonin syndrome. Management of serotonin toxicity is mainly supportive including discontinuation of serotonergic drug, intravenous fluids, oxygen, chemical sedation and vital signs monitoring. Cyproheptadine as antitode is rarely indicated unless supportive measures failed. Seizure occurrence should be observed though uncommon.

Conclusion: Serotonin toxicity is a potentially life-threatening condition with varies prognosis depending on the types and dosage of serotonergic agent. Preventing serotonin syndrome requires careful monitoring of medication use as well as avoiding potential drug-drug interaction.

Keywords: Serotonin syndrome

070

DECODING SEVERE BRADYCARDIA: ANTIHYPERTENSIVE INTERPLAY IN BRASH SYNDROME

Siti Fatimah Kather Hussain[1], Tan Chun Chau[1], Barathan Manoguran[1], Varrsha Manoharan[1]

[1]*Emergency and Trauma Department, Hospital Seberang Jaya, Pulau Pinang, Malaysia*

Introduction: BRASH syndrome, a critical complication in patients on AV nodal blockers, combines Bradycardia-Renal Failure-AV Nodal Blockade-Shock-Hyperkalemia. Prompt recognition and intervention are crucial due to its potential for high morbidity and mortality. Hyperkalemia should suspected in bradycardic patients with renal impairment on AV nodal blockers.

Case description: A 76-year-old Malay man with diabetes, hypertension, dyslipidemia, and chronic kidney disease presented with severe bradycardia, heart rate (HR) of 30 bpm during a routine clinic visit. He was on atenolol 100mg OD (beta-blockers), diltiazem 30mg BD (calcium-channel blocker), and perindopril 8mg OD (ACE inhibitor). Upon assessment in the emergency department, the patient was conscious and asymptomatic. However, his blood pressure (BP) was unrecordable, with a HR of 26-30 bpm. An electrocardiogram noted sinus bradycardia without a tall-tented T wave. Blood investigation revealed compensated metabolic acidosis, hyperkalemia (6.2mmol/L), and elevated creatinine (160mmol/L). The patient was resuscitated with IV crystalloid, IV atropine, nebulized salbutamol, and an IV lytic cocktail, leading to normalization of BP, HR (50-60 bpm), and potassium level (4.9mmol/L). He started on kalimate powder and oral sodium bicarbonate, discontinuation of beta blocker, and ACE inhibitors. He was admitted for five days while his BP was well-controlled with amlodipine and diltiazem.

Discussion: The BRASH syndrome can arise from hyperkalemia and AV nodal blockers, exacerbated by dehydration or medication titration. ACE inhibitors combines with other antihypertensives can increase side effect of hyperkalemia, hypotension, and renal failure. ECG changes may not align with typical hyperkalemia patterns. Initial resuscitation necessitates addressing hyperkalemia and bradycardia concurrently, with aggressive hyperkalemia therapy and fluid resuscitation. Sodium bicarbonate aids in managing uremic acidosis and hyperkalemia, potentially avoiding urgent dialysis. Severe cases may require renal replacement therapy, while reversal of AV nodal blockade through various medications (lipid emulsion, glucagon, or high-dose insulin infusion) or transcutaneous pacing.

Conclusion: The BRASH syndrome is often overlooked but poses a life-threatening risk. Effective management entails promptly addressing all syndrome components. In this case, timely interventions targeting hyperkalemia and bradycardia prevented the need for invasive treatments. Withhold the ACE inhibitors can mitigate the risk of recurrent BRASH syndrome.

Keywords: Bradycardia, hyperkalemia, ACE Inhibitor

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

071

UNMASKING HIDDEN DANGERS: GABAPENTIN TOXICITY MIMICKING STROKE IN A 54-YEAR-OLD FEMALE WITH BUERGER'S DISEASE AT SARAWAK GENERAL HOSPITAL

Gugapriyaa Muyandy[1], Nur Iryani Ahmad Zainal[1], Mohd Zaim Bin Abdullah Zawawi[1]

[1]*Emergency Department, Sarawak General Hospital, Kuching, Sarawak, Malaysia*

Introduction: Diagnosing altered mental status in the emergency department (ED) can be daunting, especially when the symptoms mimic stroke. This case highlights the need to consider medication toxicity, an often-overlooked differential diagnosis. We reported case of gabapentin toxicity mimicking stroke.

Case Description: A 54-year-old Malay female with underlying Buerger's disease, diabetes, hypertension, dyslipidemia, history of smoking and alcohol use, presented to ED Sarawak General Hospital with altered mental status and no history that suggests infection. Upon arrival, her Glasgow Coma Score (GCS) was E4, V2, M5 (11/15), blood pressure of 147/76 mmHg, heart rate of 77 bpm, and SpO2 of 98% on room air. Random blood glucose ,5.6 mmol/L. Neurological exam revealed pupils 3 mm, reactive bilaterally, no facial asymmetry, aphasia, drowsy, motor strength of 4/5 in all limbs and right-sided inattention. ECG was sinus rhythm. Plain CT brain scan reported multifocal chronic infarcts . During her stay in ED, patient slowly regained full consciousness and motor power over all 4 limbs. Initially, ischemic lacunar stroke was suspected.

However, detailed history in the ward revealed that, patient had unsteady gait, disorientation, and mumbling prior to ED visit. She had been on high doses of gabapentin for her pain, 2100 mg/day, exceeding the recommended 1400 mg/day for her weight (55 kg) and renal function (CrCl 53 ml/min). Thus, raised suspicion of gabapentin toxicity.

Discussion: Gabapentin is a GABA analogue that is use in wide array of conditions including neuropathic pain. Patient with gabapentin toxicity can present with myoclonus, myopathy and altered consciousness. With no therapeutic drug monitoring (TDM) level available, it poses difficulty in diagnosing. Higher index of suspicion required for the possibility of toxicity in patients with reduce renal function as, gabapentin is exclusively eliminated renally.

Conclusion: This case emphasizes the importance of considering medication toxicity in patients with altered mental status or stroke-like symptoms. Gabapentin toxicity, a potential mimic of stroke most of the time underrecognized. Thorough history and physical examination are essential in enhancing diagnostic accuracy and patient outcomes in ED.

Keywords: Gabapentin toxicity, altered mental status, stroke mimics

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

072

"NAVIGATING THE AIRWAYS: A CRITICAL CASE OF PENETRATING NECK INJURY"

Shivani Selvaratnam[1], Shamini Sangasamy[1]

[1]*Hospital Sultan Idris Shah Serdang, Kajang, Malaysia*

Introduction: Early detection of hard and soft signs in penetrating neck injuries is vital to identify vascular or airway compromise. Approximately 20% of laryngo-tracheal trauma cases result in mortality

Case: We present a case of a male patient who sustained laceration wounds to Zone I and Zone II of the neck following a motor-vehicle accident. Upon arrival, the patient exhibited hoarseness of voice, neck pain, and shortness of breath. Clinical examination revealed two laceration wounds over Zone I and Zone II, with the Zone II wound showing a hard sign of bubbling, indicating a laryngo- tracheal injury. Extensive subcutaneous emphysema was noted on the left side of the neck, extending to the face. Despite being hemodynamically stable, the patient showed signs of hypoxia. A referral to ENT for a bedside flexible nasopharyngeal scope revealed a hematoma over the posterolateral pharyngeal wall at the level of the epiglottis and an edematous, immobile left vocal cord. The patient was then taken to the operating theater (OT) for an emergency tracheostomy. A Computer Tomography (CT) scan of the thorax and neck confirmed subcutaneous emphysema complicated by pneumomediastinum and laryngeal cartilage fractures. Subsequently, the patient was referred to Plastics for reconstructive laryngeal surgery.

Discussion: The Western Trauma Association provides specific guidelines for managing penetrating neck injuries. Various intubation methods, such as rapid sequence induction (RSI) via orotracheal intubation, awake intubation, or fiber-optic intubation, may be considered. In difficult cases where intubation and ventilation are not possible, a surgical airway is the last resort. Challenges include the risk of inserting the endotracheal tube into a false lumen caused by anatomical distortion or worsening subcutaneous emphysema due to the use of bag-mask ventilation (BMV) or laryngeal mask airway (LMA). Hence, choosing the least complicated method on a case-by-case basis is crucial.

Conclusion: Managing an airway in penetrating neck injuries is not a one-size-fits-all approach. The strategy depends on multiple factors, including the type and extent of the injury, available tools, and the operator's experience, to minimize complications and ensure patient safety.

Keywords: Penetrating neck injury, airway management, laryngo-tracheal trauma.

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

073

THE UNFORGOTTEN LEWIS LEAD ECG FOR DETECTION OF VENTRICULOATRIAL CONDUCTION TYPE: A CASE SERIES

Aznah Ahamed[1], Muhammad Khidir Mohd Kamil[1]

[1]*Emergency and Trauma Department, Teluk Intan, Hospital, Perak*

Introduction: The Lewis lead electrocardiography (ECG) is an alternative bipolar chest lead to augment atrial activity and its relationship to ventricular activity. Historically, it was employed to discern between wide QRS tachyarrhythmia, visualise flutter or fibrillatory waves, and recognise various types of atrial arrhythmias.

Case descriptions

Case 1: A 52-year-old female presented with chest pain and diaphoresis. The patient was hemodynamically stable with a blood pressure of 120/60 mmHg and a heart rate of 140 beats/min. The ECG showed a narrow QRS complex tachycardia with widespread ST-segment depression and ST-segment elevation in lead aVR. From the tracing, p-wave was not readily apparent, suggesting a supraventricular origin. Repeated tracing of Lewis leads demonstrates P-wave always precedes the QRS wave, which indicates sinus tachycardia.

Case 2: A 64-year-old male complained of breathlessness at rest. The patient was hemodynamically stable with a blood pressure of 180/90 mmHg and a heart rate of 54 beats/min. The ECG demonstrated a junctional rhythm with right bundle branch block (RBBB). Repeated Lewis lead ECG showed the p-wave always appears before the QRS wave with a PR interval of 124 ms, which indicates sinus bradycardia.

Discussion: We demonstrate the usefulness of Lewis lead in differentiating supraventricular tachycardia versus sinus tachycardia and the junctional rhythm versus sinus bradycardia. Lewis lead ECG is performed by placing the right hand electrode on the second intercostal right parasternal, the left-hand electrode on the fourth intercostal right parasternal and the left leg electrode on the right lower costal margin. This will shift the cardiac vector, and the P-wave will be more apparent in lead I. Calibration can be set to 1 mV/20 mm and paper speed from 25 to 50 mm/s to improve visualisation of the P-wave. Aksu et al. demonstrated that the sensitivity of standard and Lewis lead ECG in determining the visible P-wave was 33.3% and 66.7%, respectively.

Conclusion: The Lewis lead configuration aids in better visualising P-wave and identifying particular types of ventriculoatrial conduction, which is necessary for accurate diagnosis and treatment of patients.

Keywords: Lewis lead, tachycardia, ventricular tachycardia.

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

074

OLD WORLD MEETS MODERN-DAY SCURVY: AN UNUSUAL CAUSE OF LIMPING AND WEAKNESS IN THE ED

Aznah Ahamed[1], Hani Syamimi Hamzah[1], Muhammad Khidir Mohd Kamil[1]

[1]*Emergency and Trauma Department, Teluk Intan, Hospital, Perak*

Introduction: Scurvy is a nutritional disease that can manifest with complications of collagen defects caused by a deficiency of ascorbic acid. In the modern world, this condition has become extremely rare and may mimic other diseases, resulting in delayed diagnosis and unnecessary workups.

Case description: An 11-year-old boy, presented to the emergency department (ED) with a two-week history of worsening pain and numbness of bilateral lower extremities associated with an inability to weight bear. He had knee bruises when he accidentally fell. Of note, he had seen a dentist for gum bleeding and overgrowth, who treated him for pyogenic granuloma and plaque hyperplasia. The child consumed a strict diet based on rice and chicken, with complete avoidance of fruit and vegetables. On examination, the child demonstrated an antalgic gait with intact power and sensation for the upper and lower limbs. His right knee was bruised and mildly swollen. The dental examination revealed gingival hyperplasia and evidence of clotted blood on his gums. Pertinent admission labs revealed an iron deficiency anaemia with haemoglobin of 9.9 g/dl, raised c-reactive protein of 41.9 mg/L, and prolonged thromboplastin time of 44.5 s. Scurvy due to a strict diet was highly suspected, and the patient was admitted to the ward. However, plasma vitamin C was not measured because it was not available in our hospital. Therefore, oral vitamin C and ferrous fumarate were initiated for the patient. Intriguingly, his pain and numbness of the bilateral lower extremities improved gradually. Two weeks later, his gum hyperplasia was completely resolved.

Discussion: Scurvy has myriad presentations, with the most common being the musculoskeletal system in 80% of cases. In children, pseudo-paralysis and limping gait may occur because of swelling and bleeding of soft tissues or joints, mimicking septic arthritis. Dermatological manifestations include ecchymosis, petechiae, and perifollicular haemorrhages. Hypovitaminosis C also results in collagen alterations and stomatological deformations, including tooth loss, vascular fragility that causes bleeding and bruising, and an increased risk of periodontal inflammation and infection leading to gingival overgrowth, as seen in this case.

Conclusion: Scurvy is a rare disease with a lack of specific clinical manifestations, and physicians should be aware of the diagnosis, as prompt recognition and timely treatment with ascorbic acid are crucial to avoiding life- threatening complications.

Keywords: Scurvy, hypovitaminosis C , pediatric.

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

075

THE DEADLY PROPRANOLOL-INDUCED HYPERKALAEMIC CARDIAC ARREST COMPLICATING THE TREATMENT OF HYPERTHYROIDISM AND THYROID STORM: A CASE SERIES

Muhammad Khidir Mohd Kamil[1], `Ayunni Nazirah Abdul Razak[1]

[1]*Emergency and Trauma Department, Teluk Intan Hospital, Perak*

Introduction: Propranolol is a non-cardio-selective beta-blocker that is preferably used in the management of thyrotoxicosis or thyroid storm (TS). Propranolol-induced hyperkalaemia has been reported in cases of infantile haemangioma but has never been documented in the management of thyroid crises.

Case description

Case 1: A 32-year-old gentleman with a history of hyperthyroidism presented with acute breathlessness, fever and cough. Vitals showed heart rate of 109 beats/min, and temperature of 39.1 °C. ECG revealed atrial fibrillation with rapid ventricular response. He was diagnosed with TS with Burch-Wartofsky score (BWS) of 55. He was treated with propylthiouracil (PTU), lugols iodine, hydrocortisone, and propranolol. After 6 hours , patient developed asystole. Potassium increased from 5 to 8 mmol/L. Patient succumbed despite on treatment for hyperkalaemia.

Case 2: A 54-year-old gentleman with a history of ischaemic heart disease presented with breathlessness. He was started with non-invasive ventilation and administered with carbimazole and propranolol. On day 5 of admission, required intubation and mechanical ventilation. ECG revealed alternating pseuso-Brugada type 1 and type 2. Patient developed pulseless electrical activity. Potassium increased from 4.6 to 6.2 mmol/L. Despite treatment, patient died due to refractory hyperkalaemia.

Case 3: A 31-year-old gentleman presented with chest pain associated with diarrhoea. Vitals showed heart rate of 140 and temperature 38.8 °C. He was treated for TS precipitated by pneumonia with BWS score of 70. He was given PTU, lugols iodine, hydrocortisone, and propranolol. 5 hours later, patient became hypoxic and distress. He required intubation and mechanical ventilation. Pre-arrest ECG revealed junctional rhythm with tall-tented T-waves. Potassium increased from 4.5 to 10.2 mmol/L. Patient succumbed despite on treatment for hyperkalaemia.

Discussion/Conclusion: Propranolol-induced hyperkalaemia is an unexpected, potentially life-threatening adverse effect. Research has shown the risk of circulatory arrest in thyroid storm patients treated with propranolol. Cardio-selective beta-blockers are a safer option for treatment for tachycardia in TS, especially in those with preexisting thyrotoxic cardiomyopathy.

Keywords: Propranolol, hyperkalaemia, thyroid storm.

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

076

THE GUNSHOT: NOT ALL HEROES WEARS CAPES

Shatiya Devi T[1], R.Periyanayaki R.M.R[1]

[1]*Hospital Cyberjaya, Selangor, Malaysia*

Introduction: Gunshot causes ballistic trauma due to penetrating injury which injures the part of body and internal organs that leads into massive bleeding. This can be fatal to one's life which requires emergent action.

Case: We present a case of 37 years old gentleman who works as bodyguard, had alleged gunshot wound in KLIA while escorting. Patient was shot at the abdomen and actively bled from the side of the wound. Upon arrival, patient was delirious with blood pressure of 68/46, heart rate of 65 and oxygenation of 98% under room air. Upon examination, entry and exit points of bullet had been identified. In FAST scan, noted patient had massive free fluids at all sites in the abdomen. Patient was intubated immediately impending respiratory collapse, given boluses of 1litre of saline, analgesics, iv tranexamic acid. While resuscitating, patient also had been started with inotropes and massive transfusion protocol was activated. Surgical team already had been standby, thus able to push the patient to operation theatre within 1 hour from arrival. Patient underwent damage control laparotomy and had sustained with small bowel injury. Total estimated blood loss was about 3.5L. Patient made good progress and was discharged home after 14days of admission.

Discussion: The extent of ballistic trauma happens according to the kinetic energy of the bullet passes through. Massive blood loss and instability of patient are expected in ballistic trauma since the high velocity of bullet which penetrates the body part causes extensive damage to the soft tissue, organs as well as injury to the blood vessels. Damage control and securing of the bleeding should be done as early as possible for better outcome of patient.

Conclusion: As the result, early information given by MECC team prior to the arrival of patient, had led us to activate multidisciplinary team in advance which able to conceal a good prognosis for the patient. Fast, efficient and good team support from all the disciplinary able to save one's life.

Keywords: Gunshot, ballistic trauma

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

077

MANAGEMENT OF HYPERTENSIVE EMERGENCIES IN PAEDIATRICS

Dania Hazirah binti Mohamad Hatta[1], Mohamad Faizal Zulkhifli[1]

[1]*Emergency and Trauma Department, Hospital Kemaman, Kelantan, Malaysia*

Introduction: Hypertensive encephalopathy manifests with a spectrum of symptoms including headaches, nausea, vomiting, visual disturbances, focal neurological deficits, and seizures, often occurring suddenly alongside severe systemic hypertension. Despite longstanding consensus that managing severe hypertension in children requires carefully controlled gradual reduction of blood pressure to avert irreversible neurological harm, the current landscape of pediatric guidelines lacks uniformity on this critical aspect.

Case Description: A previously healthy 8 years old boy had a generalised tonic clonic seizure preceded by 3 days history of headache, vomiting, abdominal pain, periorbital and bilateral lower limb swelling. Blood pressure was 182/125, PR 85, DXT 5.5, RR 34 and SPO2 89 under room air. Upon auscultation, lungs had bilateral crepitations up to midzone. Findings at neurologic examination were normal. Findings on computed tomographic (CT) scan at time of presentation revealed no intracranial haemorrhage or infarct. A diagnosis of nephrotic syndrome with hypertensive emergency (hypertensive encephalopathy and acute pulmonary oedema) was made. The patient was put on CPAP and given oral Nifedipine. After 10 days admission, blood pressure was controlled with oral nifedipine and no further seizure activity or neurologic symptoms, patient was discharged with Klinik Kesihatan appointment for BP monitoring.

Discussion: Currently, no consensus exists on the best first-line drug for hypertensive crises in children. European guidelines suggest sodium nitroprusside and labetalol, while the American Academy of Pediatrics recommends esmolol, hydralazine, labetalol, and nitroprusside. Malaysian protocols suggest intravenous labetalol, nicardipine, hydralazine, and esmolol. Oral nifedipine, once used, is now avoided in adults due to risks but remain to be used in paediatrics. Beta blockers, like labetalol, and calcium-channel blockers, such as clevidipine and nicardipine, are effective. Beta blockers outperform nitroprusside in blood pressure reduction. Sodium nitroprusside's use is limited due to potential toxicity, especially in children with renal issues. Comprehensive studies comparing oral versus intravenous antihypertensives in pediatric cases are lacking.

Conclusion: Hypertensive encephalopathy is a rare neurological syndrome in children. It is associated with rapid onset of severe hypertension followed by complete recovery if promptly treated. This syndrome can be fatal if unrecognized and not promptly treated, therefore it should be considered as a medical emergency.

Keywords: Paediatric, hypertensive emergency, encephalopath

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

078

EYE ON FIRE : A CASE STUDY OF GLOBE RUPTURE

Lim Wen Tzien[1], Foo Hui Ching[1], Ng Siew Eng[1], Nor Khatijah Ahmad[1]

[1]*Emergency Department, Selayang Hospital, Selangor, Malaysia*

Introduction: Globe rupture is a form of severe eye injury from direct trauma, causing visual alteration, pain and discernible changes in ocular appearance. Quick diagnosis and treatment are essential to prevent irreversible blindness.

Case description: A 14-year-old boy injured his right eye while playing with fireworks. Examination revealed abrasion wound on the superior temporal aspect of the lid, peri-orbital swelling with mechanical ptosis, subconjunctival hemorrhage, and chemosis. Visual acuity in the right eye was unable to appreciate light, with a non-reactive pupil. He was promptly referred to an ophthalmologist for further evaluation and underwent Computed Tomography (CT) scan for orbit. Subsequent surgery included examination under anesthesia and repair of conjunctival injuries was done. He was discharged home after 5 days of stay.

Discussion: Globe rupture is a traumatic eye injury that results in a breach of the eye's wall involving either sclera or cornea. Suspected based on injury mechanism, physical examination findings include foreign bodies in the eye, abnormal pupil shape or size, reduced vision, and positive Seidel Test indicating corneal laceration. Management focuses on reducing intraocular pressure by positioning the patient's head at 30 degrees, avoiding eye manipulation, and shielding the eye to prevent pressure. In addition, broad-spectrum antibiotics, intramuscular tetanus vaccine, and pain relief are recommended. Urgent consultation with ophthalmologists is essential for formal evaluation and further intervention.

Conclusion: Prompt recognition and management of globe rupture are essential. Timely referral to ophthalmology is necessary, as surgical scleral inspection is mandatory in most cases to prevent permanent vision loss.

Keywords: Globe rupture, trauma, surgery

079

VOICE OF WARNING: SUBCUTANEOUS EMPHYSEMA FOLLOWING COLONOSCOPY

Varrsha Manoharan[1], Tan Chun Chau[1], Barathan Manoguran[1], Siti Fatimah Kather Hussain[1]
1Emergency and Trauma Department, Hospital Seberang Jaya, Pulau Pinang, Malaysia

Introduction: Complications following colonoscopy, including perforation, bleeding, and altered bowel function, are well-documented. Colon perforation with subcutaneous emphysema is a recognized adverse event associated with various risk factors such as advanced age, comorbidities, and endoscopist experience. Treatment decisions hinge on factors like timing of recognition, perforation size, and proceduralist expertise.

Case Description: A 70-year-old Chinese male with a history of colonic diverticulosis and a dysplastic rectal polyp presented to the Emergency Department one day after undergoing colonoscopy and polypectomy, reporting changes in voice, neck swelling, difficulty breathing, and abdominal discomfort. Despite being asymptomatic immediately post-procedure, he developed a high- pitched voice at night and other symptoms later. His vitals were stable, not tachypneic, and his oxygen saturation was 98% under room air. Physical examination revealed extensive subcutaneous emphysema from the abdomen to his neck, with no signs of peritonitis. Erect chest x-ray confirmed air under the diaphragm and extensive subcutaneous emphysema on abdominal, chest, and neck X-rays. Laboratory results indicated elevated lactate, inflammatory markers and leukocytosis. Antibiotic therapy was initiated and treated conservatively. He showed improvement clinically and was discharged well after two days. The one-week follow-up showed the resolution of signs and symptoms.

Discussion: Subcutaneous emphysema can develop after colonoscopy-induced perforation, typically due to extraperitoneal air leakage. It can lead to unusual symptoms such as changes in voice, neck swelling, and difficulty breathing. Studies indicate a higher perforation rate in colonoscopies involving polypectomies. Conservative management, including intravenous fluids, bowel rest, and antibiotics, is appropriate for patients in stable condition without signs of peritonitis, while surgical intervention is for cases with diffuse peritonitis or clinical deterioration despite conservative measures. Voice changes like thickened, high-pitched, or hyponasal voice can signal retropharyngeal air accumulation. It should prompt healthcare providers to consider subcutaneous emphysema post-colonoscopy.

Conclusion: Heightened awareness of voice changes as a potential early sign of subcutaneous emphysema following a colonoscopy can aid in prompt diagnosis of perforated viscus and management, which improves patient outcomes.

Keywords: Colonoscopy, subcutaneous emphysema, voice

080

WHY AM I TURNING COLOUR? A CASE REPORT OF GREEN URINE AND PLASMA FOLLOWING INGESTION OF BLUE HARPIC

Nur Elyatulnadia Suhaizad[1], Mohd Anas Mohd Nor[1], Azliza Abd Rahman[1], Mohammad Zairul Anwar Zailani[1]

[1]*Hospital Pekan, Pahang, Malaysia*

Introduction: Normal urine and plasma colour are yellow. Any deviation of this colour is alarming to the clinician due its rare occurrence. We report a case of Harpic product ingestion where urine and plasma showed greenish discolouration owing to the blue colour of ingested product.

Case description: 84 years old male with underlying Alzheimer was brought to Emergency department after ingestion of unknown blue colour product.The daughter described it as possibly 'harpic power bluematic' as it's the only blue-coloured product in the house.She was unsure of coingestion of other substances.Following the ingestion,he had blue coloured vomitus and blue coloured stools.On examination,he was disorientated but hemodynamically stable.His oral mucosa and nasal cavity were bluish stained.Foley catheter inserted revealed green colour urine and bloods sent to laboratory showed green coloured plasma.His laboratory studies were normal.He was admitted to ward, given hydration and discharged the next day with improvement of symptoms and clearance of urine colour and plasma.

Discussion: Discolouration of urine and plasma gives an important clue for clinician to predict the ingested substance by the patient. Harpic contains hydrochloric acid along with colouring dye which makes it blue colour. The color of urine can be influenced by various factors. The presence of erythrocytes, bilirubin, medications (cimetidine, promethazine, amitriptyline, propofol), Pseudomonas infection certain foods, or dyes has effect on altering urine colour[2]Few case reports have been published which cause by methylene blue and blue dyes[3] Even though the ingested substance contain blue dye, blue urine is rare because blue pigments combine with urochrome(yellow pigment in urine)resulting in green urine[2]Normally plasma is yellowish in color but substance or drugs that enter the body can alter plasma colour. Even though there have been reports of other colors of plasma in the literature, greenish colored plasma is mentioned less frequently. Greenish color plasma can be due to elevated ceruloplasmin levels, women on oral contraceptives, in rheumatoid arthritis and Pseudomonas infection.

Conclusion: Green urine and plasma are unusual encounter. In this case there is correlation between substance ingested and alteration of urine and plasma colour.Following hydration and discontinuation of substance the green discolouration of the urine and plasma are reversible thus identification of causative agent is important as it can lead to prompt recognition and limit unnecessary investigations.

Keywords: Green, urine, plasma

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

081

A CASE OF SCURVY IN MALAYSIA: A REMINDER OF AN ANCIENT DISEASE IN A MODERN ERA

Safuan Sufaat Suhaimi[1], R. Periyanayaki A/P R.M Ramanathan[1]

[1]*Emergency Department, Hospital Cyberjaya, Selangor, Malaysia*

Introduction: Scurvy, a disease of severe vitamin C deficiency historically associated with sailors, persists as sporadic cases globally despite improved access to fresh fruits and vegetables. We present a case of scurvy in Malaysia, emphasizing the condition's relevance in modern times.

Case Description: A 2-year, 9-month-old boy presented with progressive bilateral lower limb swelling and weakness over three months, initially misdiagnosed and treated ineffectively at multiple centres. Upon assessment in our centre, the child was revealed to be a picky eater, avoiding fruits and vegetables. Clinically, the child was noted to be cachexic, pale, with a limping gait, and petechial rashes were seen over bilateral lower limbs. The child also posed a flexion deformity of the bilateral lower limbs. Other systemic examination was unremarkable. Full Blood Count revealed Hb 7.2 with other parameters within normal range. X-ray of bilateral lower limbs showed generalized osteopenia with wimberger ring sign consistent with hypovitaminosis C features. Vitamin C supplementation was initiated, and subsequent testing confirmed the diagnosis with serum ascorbic acid levels <5umol/L.

Discussion: Scurvy, an ancient disease, remains relevant due to dietary inadequacies even in the modern era. Vitamin C is crucial for collagen synthesis, and its deficiency leads to musculoskeletal manifestations such as joint pain, swelling, and weakness, along with anemia and characteristic radiographic findings. These symptoms, as seen in our patient, include swelling and pain in the lower limbs, petechiae, and radiographic evidence of hypovitaminosis C. Treatment involved oral Vitamin C supplementation and physiotherapy, with prompt improvement observed in our patient as he was able to walk subsequently

Conclusion: This case highlights the persistence of scurvy and the importance of early recognition, particularly in at-risk populations. Socioeconomic factors significantly impact healthcare access and outcomes. Comprehensive dietary assessments are essential to avoid misdiagnosing this easily treatable condition.

Keywords: Scurvy, Pediatric, Socioeconomic factors

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

082

DUAL THREAT: CONCURRENT CEREBRAL TOXOPLASMOSIS AND INFERIOR WALL STEMI IN A 45-YEAR-OLD PATIENT WITH ADVANCED HIV

Lim Yunn Li[1], Seri Diana Mahmud Affandi[1], Mohd Zaim Abdullah Zawawi[1]

[1]*Emergency Department, Sarawak General Hospital, Kuching, Sarawak, Malaysia*

Introduction: In patients with advanced HIV, cerebral toxoplasmosis is a serious opportunistic illness that frequently manifests as neurological impairments. Rarely, cerebral toxoplasmosis and acute myocardial infarction—especially ST-Elevation myocardial infarction (STEMI)—occur together, posing difficult diagnostic and treatment challenges.

Case Presentation: A 45-year-old man with a history of diabetes mellitus, hypertension, dyslipidemia, and HIV presented to the emergency department in acute disorientation and nonresponsiveness. Neurological evaluation revealed left-sided abnormalities. CT brain imaging showed hyperdensity in the left thalamus, suggestive of previously treated toxoplasmosis, and new hypodensity in the right cerebellar hemisphere with surrounding edema. Additionally, an ECG indicated ST-elevation in the inferior leads, consistent with an inferior wall STEMI.

The patient was evaluated for thrombolysis; however, due to the high risk of bleeding with alteplase, thrombolysis was not recommended. Instead, a percutaneous coronary intervention (PCI) was advised. Coronary angiography revealed double-vessel disease with spontaneous reperfusion of the right coronary artery (RCA), so no PCI was performed. The patient was treated medically with double antiplatelet therapy and referred back to Sarawak General Hospital with outpatient cardiology follow-up. The stable left thalamus hyperdensity and evolving posterior circulation infarct on subsequent CECT brain scans suggested prior toxoplasmosis treatment. The patient was discharged with follow-up appointments for neuromedical and rehabilitative care.

Discussion: The concurrent presentation of cerebral toxoplasmosis and acute myocardial infarction in this patient with advanced HIV infection underscores the complexity of managing multiple comorbidities in such individuals. The immunocompromised state predisposes patients to opportunistic infections like toxoplasmosis, while chronic inflammation and endothelial dysfunction increase the risk of cardiovascular events. Timely diagnosis and management of both conditions are crucial.

Conclusion: This case illustrates the complex interplay between opportunistic infections and cardiovascular complications in HIV patients. It underscores the importance of comprehensive, multidisciplinary management approaches to address the multifaceted medical needs of these patients. Further studies are warranted to develop optimized protocols for such complex clinical scenarios.

Keywords: Toxoplasmosis, HIV, STEMI

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

083

DOES ADMINISTRATION OF EXOGENOUS STEROID INFLUENCE THE DIAGNOSIS OF STARVATION KETOSIS VERSUS DIABETIC KETOACIDOSIS?

Nurhazwani Binti Othman

Hospital Tengku Ampuan Afzan

Introduction: Diabetic ketoacidosis usually associated with high anion gap metabolic acidosis with ketonemia or ketonuria. However, one of differential to be considered for high anion gap metabolic acidosis would be starvation ketosis. Although starvation ketosis rarely accounted, it is possible to be masked by patient that receive exogenous steroid.

Case: We presented a case of 62 years old lady with underlying falx meningioma under neurosurgery care on tapering dose of oral steroid. She presented to emergency department with days of poor oral intake and altered sensorium. Blood gas showed mild metabolic acidosis with ketonemia and high glucose. Blood gas showed rapid improvement and resolution of acidosis after she 2litres of fluid bolus. She was treated as starvation ketosis even though no hypoglycemic episodes in emergency department.

Discussion: Reduced oral intake and dehydration increases cellular level metabolic demand thus contributes to production of ketone bodies which subsequently results in starvation ketosis and mild metabolic acidosis. However, it can be a diagnostic dilemma in patient on exogenous steroid.

Keywords: Starvation, Acidosis, Exogenous Steroid

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

084

CRASH COMPLICATIONS: NAVIGATING THE CHALLENGES OF TRAUMATIC DIAPHRAGMATIC HERNIA

Lim Wen Tzien[1], Siti Hajar Riduan[1], Ng Siew Eng[1], Nor Khatijah Ahmad[1]

[1]*Emergency Department, Selayang Hospital, Selangor, Malaysia*

Introduction: Traumatic diaphragmatic hernia, resulting from blunt or penetrating trauma, can cause life- threatening complications. Therefore, prompt diagnosis is crucial to avoid significant consequences.

Case description: A 40-year-old woman was involved in a motor vehicle accident, struck by a lorry while driving. Extricated by emergency services, she arrived at the Emergency Department restless, with GCS of 13 and unequal pupils. Diagnosed with left hemothorax by E-FAST (Extended Focused Assessment with Sonography in Trauma), she underwent chest tube insertion and extensive resuscitation. CT revealed left diaphragmatic hernia, liver injury, multiple intracerebral bleed and fractures. A total of 4 pints packed cells, 1 cycle of DIVC, and subsequently CPR was done on the patient. Despite damage control resuscitation with ICU support, patient succumbed to death after 14 hours of resuscitation.

Discussion: Complicated traumatic diaphragmatic hernia (TDH) is the most common form of diaphragmatic injury that is caused by high impact injury leading to lethal complications. It occurs in 1%-7% of blunt abdominal traumas, indicating catastrophic damage. Compression of the lungs due to intrathoracic abdominal contents results in a decrease in lung reserve, respiratory compromise and mediastinal shift. In cases of bag-and-mask ventilation, a lack of awareness and delayed suspicion combined with vigorous breathing will exacerbate the condition by filling the intrathoracic organs and creating a viscous cycle. Clinically, TDH is suspected when there is an abdominal injury with reduced breath sounds and gurgling sounds on chest examination. A nasogastric tube curled up in thoracic cavity is also a pathognomonic for TDH. Diagnosis is often delayed due to its rarity and nonspecific symptoms, with clinical guidelines being sparse. Hence, CT (Computed Tomography) scans are essential for suspected cases. Early surgical intervention is crucial, with laparoscopy preferred for stable patients and open surgery for unstable ones. Damage Control Surgery is vital for critically unstable patients. In ED settings, early nasogastric tube insertion aids in decompressing intrathoracic abdominal contents, improving ventilation and circulation.

Conclusion: Recognizing diaphragmatic rupture is crucial due to the severity of associated injuries, necessitating an aggressive diagnostic approach in at-risk patients.

Keywords: Diaphragmatic hernia, trauma, nasogastric tube

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

085

A SHATTERED SPINE WITH BLEEDING CHEST – A CASE OF BILATERAL HAEMOPNEUMOTHORACES AND HAEMOMEDIASTINUM SECONDARY TO THORACIC SPINE FRACTURE-DISLOCATION

Farah Nabilah Jowari[1], Kevin Wong Chuing Shen[1], Nur Diyana binti Shafee[1], Norhaya binti Abdullah[1]

[1]*Emergency and Trauma Department, Hospital Pakar Sultanah Fatimah, Muar, Johor, Malaysia*

Introduction: Thoracic spine fracture-induced haemothorax is rare but fatal. We report a case of thoracic spine fracture-dislocation with bilateral haemopneumothoraces and haemomediastinum that we encountered in our centre.

Case Description: A 19-year-old male, who was a motorcyclist, sustained back pain with paraplegia after a collision with a lorry. In the emergency department, examination revealed complete spinal cord injury below T6. Otherwise, he was haemodynamically stable and saturating well with low-flow oxygen. A computed tomography (CT) of the whole spine showed T4 burst fracture, T3/T4 fracture-dislocation, and spinal canal stenosis. The CT also revealed incidental findings of pulmonary contusion, multiple rib fracture, bilateral haemopneumothoraces and haemomediastinum, with active contrast blush adjacent to the T3/T4 fracture-dislocation, likely from right superior intercostal vein bleeding. Bilateral chest tubes were inserted and three units of packed red blood cells were transfused. He was transferred to a tertiary centre the following day for thoracic spine fixation. Subsequently, a tracheostomy was done for prolonged ventilation for lung atelectasis and pneumonia. He was discharged after one month of hospitalisation.

Discussion: Thoracic spine fracture-induced haemothorax is usually associated with unstable spine fracture accompanied by dislocation. The haemothorax may be detected early or late. The patient's movement appeared to be related to the onset and severity of haemothorax. In our case, the transport to the CT suite and interhospital transfer might contributed to the worsening of haemothorax. Haemostasis in this condition is challenging. For the haemodynamically unstable patient, Ninomiya *et al*. suggest damage control surgery by thoracotomy with gauze packing, application of bone wax or haemostatic agent. Our patient's haemopneumothoraces were managed conservatively with chest drains and blood transfusion as his haemodynamics were stable. Pneumonia is a late but common complication this condition, which will further compromise the ventilation of a patient with haemothorax, rib fracture, and pulmonary contusion.

Conclusion: Massive haemothorax from thoracic spinal injury is uncommon but can be life-threatening. A high index of suspicion and close monitoring for haemothorax in unstable thoracic spine fracture will allow early detection and intervention to improve the outcome. Unnecessary transport should be minimised to prevent exacerbation of the haemothorax.

Keywords: Haemomediastinum, haemothorax, thoracic spine fracture

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

086

TRAPPED IN TIME, REALITY OF LOCKED-IN SYNDROME: BASILAR ARTERY THROMBOSIS

Ahmad Sayuti Jamal Abidi[1], Mohd Hisham Isa[1]

[1]*Department of Emergency Medicine, Hospital Canselor Tuanku Muhriz UKM, Kuala Lumpur, Malaysia*

Locked-in syndrome is a rare neurological condition resulting from a basilar stroke, which causes severe damage to the brainstem. This condition leads to complete paralysis of all voluntary muscles in the body, except for eye movement and blinking. The individual is fully conscious and aware of their surroundings but unable to speak or move. A non-contrast CT brain may show hyperdense basilar signs.

Case report: We report a case of a 74-year-old male who initially presented with headache, vomiting, and a decrease in consciousness level upon arrival, with a GCS score of E4V1M4. The patient exhibited jerky movements in both lower limbs, which eventually progressed to tetraplegia. He demonstrated the ability to comply with instructions by using eye movements. He was intubated afterward to preserve his airway due to the risk of aspiration. The stroke protocol was initiated, and a non-contrasted CT brain showed hyperdense basilar signs that were highly suspecting of basilar artery thrombosis. CT angiography cerebral further confirmed the diagnosis of Locked-in Syndrome secondary to the Basilar Artery Thrombosis. He underwent thrombolysis and mechanical thrombectomy and was admitted to the intensive care unit and is currently already transferred to the general ward.

Discussion: Locked-in syndrome (LIS) is referred to as a neurological condition associated with infarction of the ventral. It is characterized by complete paralysis of all four limbs weakness of the lower cranial nerves, and inability to speak. However, the patient can move the eyes up and down and remain cognizant. The primary cause is usually vascular, often resulting from either basilar artery obstruction or pontine hemorrhage leading to ischemia. This case highlighted findings of hyperdense basilar signs in the non-contrasted CT brain, which is highly suspicious of basilar artery thrombosis that was commonly missed.

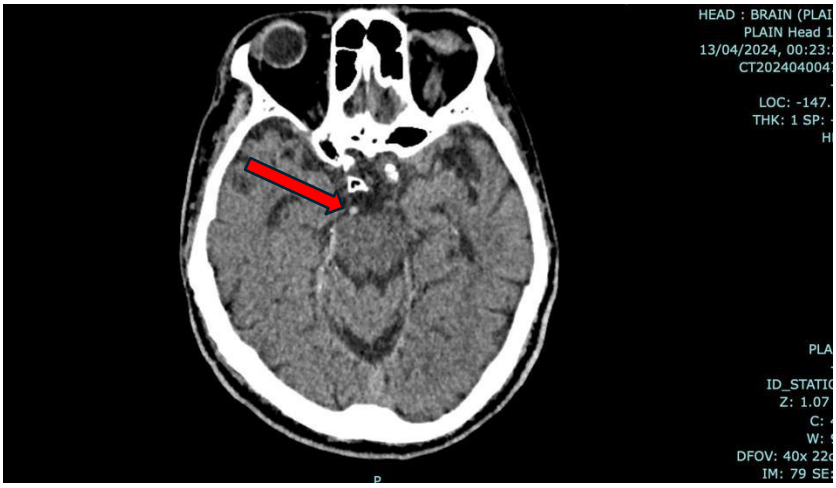

Figure 1: Non-contrast CT shows hyperdense basilar sign

Conclusion: Locked-in syndrome is a rare neurological disorder caused by an occlusion in the basilar artery. Early identification and medical intervention are crucial to prevent brainstem infarction and mortality. However, in about 65% of patients, a hyperdense basilar artery may be seen on non-contrast CT imaging, which confirms the diagnosis.

Keywords: Locked-in Syndrome, Basilar Artery Thrombosis, Hyperdense Basilar Sign

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

087

SCAPULOTHORACIC DISSOCIATION

Asilah Raihanah Ruzhan[1], Azliza Abd Rahman[1], Anas Mohd Noor[1]

[1]*Emergency Hospital Pekan, Pahang*

Introduction: Scapulothoracic dissociation (STD) is rare, potentially life and limb threatening injury with high mortality rate. It has potential to be overlooked in acute setting, especially in setting of polytrauma as it has potential to divert the clinician's attention, resulting in delayed diagnosis and treatment of this devastating injury. STD is described as laterally displaced scapula with separation of ipsilateral acromioclavicular joint, disruption of ipsilateral subclavian vessels, brachial plexus and intact overlying skin. It can be seen in non- rotated chest x ray when there is lateral scapular displacement by measuring the distance between midline thoracic spinous process and medial border of scapula bilaterally more than 1cm and scapular index more than 1.29.

Case Presentation: 40 years old, male, right hand dominant presented with alleged motorbike skidded with unknown mechanism of injury. Post trauma sustained, pain at right shoulder and swollen at right shoulder and arm. Upon arrival, GCS full, stable vital signs while right upper extremity showed deformity and swollen at right arm with abrasion wound over right shoulder but compartment soft, pulses palpable and sensation intact.

Slightly rotated chest x ray showed displacement to lateral side of right medial border of scapula than left scapula while right humerus x ray showed closed comminuted fracture of midshaft of humerus. CT angiography on right upper limb showed complete non-opacification of proximal right axillary artery, closed comminuted fracture of right mid humeral shaft and non-displaced acromion fracture, thus confirmed STD.

Outcome: The patient had undergone right closed forequarter amputation as right upper extremities is unsalvageable.

Discussion: In STD, it needs combined clinical and imagine assessment. For clinical, it may present as compartment syndrome but STD should be the number one diagnosis while for imaging, chest x ray must be looked and measured for lateral displacement of medical border of the scapula, if there is any suspicion or diagnosis prompt for STD, CT angiography need to be proceeded to know for any opacification, as it determines the level of amputation of the upper extremities.

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

088

THE UNSAFE OPTION FOR HAIR LICE TREATMENT IN CHILDREN

Yap Kar Suan[1], Suria Shamsuri[1]

[1]*Paediatric Emergency Hospital Tunku Azizah, Kuala Lumpur, Malaysia*

Lindane, also known as 1% gamma benzene hexachloride, is an organochlorine insecticide that has been in use for over 90 years. It is a potent pesticide and has been effective in controlling scabies and pediculosis. Despite its effectiveness, lindane has been linked to several adverse side effects. It is particularly toxic to humans, and instances of poisoning have been reported following ingestion of, or exposure to, lindane.

This case involves a 9-year-old boy and sibling who reportedly ingested a spoonful of Scaboma solution (hair lice medication). He experienced abnormal movements and vomiting but was alert and stable upon examination. He showed signs of metabolic and lactic acidosis, which improved with intravenous saline treatment. The patient's elder brother, who also allegedly ingested some of the solution, vomited but exhibited no other symptoms. His physical examination and blood tests were normal. Both siblings were admitted to the paediatric ward for observation.

The toxicity of Lindane is especially hazardous for specific demographics such as the elderly, young children, and people weighing less than 50 kg. These groups are at a higher risk, possibly due to increased systemic absorption, and neurologic susceptibilities such as a more permeable blood brain barrier in the extremes of ages.

One of the most concerning aspects of Lindane's toxicity is its ability to store in body fat and infiltrate the lipid-rich white matter of the brain, leading to neurotoxicity. This toxicity is prevalent and is responsible for most reported adverse effects. Symptoms can include ataxia, disorientation, tremors, seizures, and even death.

Moreover, chronic exposure to lindane has led to other serious systemic effects, such as depressed liver function, cardiac arrhythmias, and altered menstruation. Several cases of aplastic anemia have also been reported with lindane usage. As a result, Lindane is no longer recommended for use in children younger than 10, individuals weighing less than 50 kg, breastfeeding women, older adults, or people with a compromised dermal barrier.

Given the significant morbidity and mortality associated with the use of lindane and the existence of other safer alternatives, there have been calls to remove lindane from the pharmaceutical market for hair lice control.

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

089

TIME IS VISION: A CASE REPORT OF ACUTE ANGLE CLOSURE GLAUCOMA IN EMERGENCY DEPARTMENT

Faizatul Asna Abd Aziz[1], Ariff Arithra Abdullah[1], Junainah Nor[1], Salmi Illyana Mohd Asari[1]

[1]*Emergency Medicine Department, Hospital Universiti Sains Malaysia (HUSM), Kota Bharu, Kelantan, Malaysia*

Introduction: Acute visual loss represents a myriad of differential diagnoses when presented to Emergency Department (ED). Acute angle-closure glaucoma (AACG) is one of the ophthalmological emergencies and has the highest prevalence in Asia.

Case Description: A 41-year-old Malay lady presented to ED with left-sided loss of vision, left eye pain and left-sided throbbing headache and vomiting four hours prior. She has underlying systemic lupus erythematosus (SLE) complicated with lupus nephritis, end stage renal failure (ESRF) and antiphospholipid syndrome (APLS). Her dialysis was 2 days prior and uneventful. She did not have any recent change in medication. On examination, she was slightly hypertensive, tachycardic, afebrile with pain score of 8/10 over left eye. The left eye was injected with periorbital swelling and redness. Visual acuity of right eye was 6/38, while left eye only detects hand movement. Left eye pupil was mid dilated with hazy cornea and a positive relative afferent pupillary defect (RAPD). She was urgently reviewed by ophthalmology team and assessment revealed IOPs of 12mmHg and 68mmHg in the right and left eye, respectively. She was diagnosed with AACG of left eye and was prescribed analgesic, intravenous acetazolamide and timolol eyedrop.

Discussion: AACG can lead to blindness if left untreated. Obstruction of aqueous humour drainage due to closure of anterior chamber causes raised intraocular pressure (IOP) and optic nerve damage. An IOP of more than 20mmHg is considered glaucoma or glaucoma suspect. It is an uncommon presentation in the ED but can be diagnosed easily with tonometry. The characteristic finding of painful red eye with mid-dilated pupils are critical signs that should raise the suspicion of AACG. Our patient also had multiple underlying illness that may cause painful red eye that other diagnoses such as ocular inflammatory conditions and systemic thrombosis should be considered, especially in bilateral visual loss.

Conclusion: A timely diagnosis of AACG should be made to preserve patient's vision. By having a high index of suspicion from initial examination, urgent ophthalmology consult should be made and pharmacological treatment can be started immediately to reduce the IOP. Handheld tonometry can be considered in the ED to assist in diagnosis.

Keywords: Glaucoma, acute visual loss, ophthalmological emergency

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

090

THROMBOLYSIS IN ADOLESCENT STROKE

Faizatul Asna Abd Aziz[1], Ariff Arithra Abdullah[1], Junainah Nor[1]

[1]*Emergency Medicine Department, Hospital Universiti Sains Malaysia (HUSM), Kota Bharu, Kelantan, Malaysia*

Introduction: Acute stroke in adolescent is rarely seen and can be debilitating if neurological recovery is not achieved. However, with increasing number of stroke incidence, there is an increase of cases on young adults. We present a case of acute ischaemic stroke in a 17 year old boy at our centre.

Case Description A 17 year old Malay male presented to Emergency Department (ED) with sudden onset left sided limb weakness and numbness at 1230H while gardening with his father in school compound. He was last seen well at 1200H. He had no underlying illness, not on any medication, denies illicit substance abuse and non-smoker. Upon arrival, his GCS was E4V5M6, BP 135/71, HR 83, SPO2 100% under room air and capillary blood sugar (CBS) 4.6. Neurological examination revealed power over his left upper limb and left lower limb were 3/5 with reduced upper limb sensation over C5-C6, Cb-T1 level. Cranial nerve examination was unremarkable. The initial NIHSS was 5. Acute stroke protocol was activated and a plain CT brain done showed no obvious hypodensity or intracranial bleed. He was started on thrombolysis once consented by his parents with IV Alteplase at 1620H and completed after 1 hour. He had no significant complication during and after thrombolysis and made full neurological recovery within 24 hours. His NIHSS was 0 prior to discharge.

Discussion: Acute stroke is usually seen in adult patients with risks of developing atherosclerosis and ischaemia. However, there is an increase in younger patients developing acute stroke, including adolescent age group. Data for thrombolysis in paediatric and adolescent age group may be scarce, but there are many case reports of successful thrombolysis in these age groups. In our patient, full neurological recovery was made post thrombolysis indicating a good benefit versus risk of treatment. Risk factors including obesity and young hypertension are important points to be considered while managing our youth community.

Conclusion: Early recognition of acute stroke is essential and thrombolysis therapy should be considered for adolescent presenting with acute stroke ensuring their bright future.

Keywords: Acute stroke, thrombolysis, adolescent

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

091

"MYXOMA UNLEASHED: THE HEART'S UNSEEN PERIL"

Aminah Nurfarhana Mohd[1], Nurul Ataillah Abd Aziz[1], Shahzuwaty Saad[1], Anas Amri Hashim[1]

[1]*Emergency And Trauma Department, Hospital Sultan Abdul Halim, Kedah, Malaysia*

Introduction: Atrial myxomas are the most prevalent primary cardiac tumors and typically involve the left atrium. Myxomatous embolization involving the coronary arteries are rare but have been documented as a cause of acute myocardial infarction. (1) Focus echocardiography done in emergency department may help to detect and guide the management.

Case Report: A healthy 20-year-old gentleman presented to emergency department with reduced conscious level and was found gasping upon arrival. He was afebrile with a blood pressure of 121/85 mmHg, heart rate of 113 beats per minute, and an oxygen saturation of 98% on a ventilator as he required emergency intubation. His lungs examinations were clear, but a systolic murmur was noted, loudest at the left lower sternal edge. A 12-lead ECG showed ST elevations at inferior and lateral leads without right or posterior involvement. Focus echocardiography revealed a large oscillating mass in the left atrium attached to the interatrial septum suggestive of myxoma. A CT brain was done to exclude intracranial pathology and showed no significant findings. In view of patient's haemodynamics were deteriorating and evolving ST elevations on ECG, thrombolytic therapy and dual antiplatelet were administered after consulting with a cardiologist in cardiology centre. ECG post thrombolysis showed resolution of ST segments. The patient was then transferred to a cardiology center for further management but unfortunately passed away before an angiogram could be performed.

Discussion: Establishing a diagnosis of cardiac myxoma as a rare trigger for AMI can be particularly challenging. Affecting young patients and typically presenting as sudden chest pain, this condition often involves normal coronary arteries in about half of cases, indicating atypical heart disease riskfactors(2).Echocardiography is vital for assessing intracardiac masses, distinguishes between tumors, thrombi, and vegetations while providing dynamic bedside evaluation (3). Echocardiography is imperative for effective patient management guidance especially for those presenting with angina symptoms with or without ECG changes.

Conclusion: While rare, atrial myxoma should be considered in the differential diagnosis of myocardial infarction, especially in young patients without typical risk factors for coronary artery disease. Timely diagnosis through echocardiography can lead to appropriate management and prevention of further complications.

092

HIDDEN BLEEDER: A CASE OF TRAUMATIC FLAIL CHEST COMPLICATED WITH OCCULT HAEMOTHORAX

Miza Afifah binti Mat Shah[1], Kevin Wong Chuing Shen[1], Zul Imran bin Malek Abdol Hamid[1], Norhaya binti Abdullah[1]

[1]*Emergency and Trauma Department, Hospital Pakar Sultanah Fatimah, Muar, Johor, Malaysia.*

Introduction: Flail chest complicated with haemothorax is a common complication after blunt chest trauma. This is a potentially life-threatening condition due to possible ventilatory and circulatory compromise. We report a case of a large segment flail chest with occult haemothorax.

Case Description: A 56-year-old male, who was a motorcyclist, sustained a traumatic chest injury after being hit by a lorry trailer. He was on warfarin for chronic rheumatic heart disease. He was brought to the emergency department with dyspnoea, left-sided chest pain and paradoxical breathing. Initially, he was normotensive and saturating under a non-rebreather mask 15L/min. Chest X-ray showed segmental fracture of left 1st to 6th rib with bilateral lung contusion. Serial extended focused assessment with sonography in trauma (EFAST) revealed no positive finding. Subsequently, the patient developed hypotension despite ongoing blood transfusion. After a left chest drain was inserted, 300 ml of blood was drained and his blood pressure improved. Chest drain was kept for four days and a total of 1100 ml of blood was drained. He was discharged well without requiring thoracotomy.

Discussion: Flail chest is frequently associated with other pathologies such as haemothorax and pneumothorax which lead to higher mortality. Although EFAST has high sensitivity in detecting haemothorax, its effectiveness is limited by the body habitus of the patient and ultrasound is operator-dependent. Computed tomography of thorax has better sensitivity for haemothorax but it is not suitable for hypotensive trauma patients. Chest drain insertion in such a situation has both diagnostic and therapeutic purposes for occult haemothorax. Most guidelines recommend chest drain for all traumatic haemothoraces regardless of the size because blood clots in the pleural space can act as a local anticoagulant by releasing fibrinolysins from their surface. Only occult haemothorax with less than 300 ml is possible to be managed conservatively.

Conclusion: In a patient with flail chest, emergency providers should have a high index of suspicion for other associated thoracic injuries. In the absence of other obvious source of bleeding, chest drain should be considered for hypotensive patients with flail chest as early intervention for occult haemothorax may reduce mortality.

Keywords: Flail chest, haemothorax, thoracic trauma

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

093

" FROM OCEAN DEPTHS TO CLINICAL LIGHTS: UNVEILING THE ENIGMA OF SHELLFISH (MUSSELS) POISONING"- A CASE SERIES

Surekha Kaneson[1], Khadijah 'Atifah Ahmad Kamil[1], Nur Farah Syuhada Mohamad[1], Vithiya Ganesan[1]

[1]*Emergency & Trauma Department, Hospital Port Dickson, Negeri Sembilan, Malaysia*

Abstract: We present a series of cases illustrating the diverse clinical presentations in patients with mussel poisoning. This report highlights the diagnostic and therapeutic dilemmas encountered in managing neurotoxic and paralytic seashell poisoning; also emphasizes the importance of vigilance and multidisciplinary collaboration in optimizing patient outcomes.

Introduction: Mussel poisoning, caused by the ingestion of shellfish contaminated with saxitoxins produced by harmful algal blooms, can result in a spectrum of clinical manifestations, ranging from numbness with mild gastrointestinal symptoms to life-threatening respiratory paralysis. Despite its prevalence, the clinical manifestations and management strategies of mussel poisoning remain poorly understood. Here, we describe a series of cases to elucidate the varied presentations and therapeutic interventions associated with this condition.

Case Description: Total of 11 patients presented to Hospital Port Dickson.

CASE 1: 28 years old (yo) gentleman presented with multiple episodes of seizure for the 1st time, intubated on arrival for status epileptics . CT brain was normal. Admission diagnosis Seizure for investigation.

CASE 2: 62 yo Gentlemen presented with sudden onset of bilateral upper limb and lower limb numbness while having prayers. CT brain was normal. Admission diagnosis generalized numbness for investigation.

CASE 3: 64 yo Gentleman , presented with sudden onset of bilateral upper limb and peri-oral numbness associated with hypertension BP 248/131. Admitted for Sensory Lacunar Infarct.

CASE 4: Daughter to case 3 , 22 yo female , presented the next day with peri-oral numbness and bilateral hand numbness following 2 hours post Mussel ingestion .

- Identified as Mussel Poisoning outbreak, established Mussel consumption for all the previous case prior to the onset of symptoms. Diagnosis revised to Neurotoxic Shellfish Poisoning. All the relevant authorities been notified and strategies for public alert and prevention taken accordingly.
- In summary clinical presentation in all 11 cases varies including peri-oral and extremities numbness in all patient with 2 hours of mussel ingestion, 4 of them had mild gastro-intestinal symptoms and 3 of them had CNS manifestation along with respiratory depression requiring intubation. No mortalities and all discharged well.
- Toxicology report confirms bio-toxin saxitoxin identified; Paralytic Shellfish Poisoning (PSP)

Discussion & Conclusion: Our case series underscores the diverse clinical manifestations of mussel poisoning, ranging from gastrointestinal and neurological symptoms to respiratory compromise and cardiovascular instability. Timely diagnosis and appropriate management are essential to mitigate morbidity and mortality associated with this condition. Strategies for prevention, including public health advisories and regulatory measures, are warranted to reduce the incidence of mussel poisoning outbreaks.

Keywords: Mussel , Saxitoxin

094

SEVERE PNEUMONIA COMPLICATED BY HYDROPNEUMOTHORAX IN YOUNG DIABETIC PATIENT

Wong Jing Ting[1], Mohd Zaim Abdullah Zawawi[1], Seri Diana Mahmud Affandi[1], Chan Hiang Chuan[1]

[1]*Emergency Department, Sarawak General Hospital, Kuching, Sarawak, Malaysia*

Introduction: Hydropneumothorax is an uncommon complication that can arise from severe pneumonia. Antibiotic treatment may prove inadequate; therefore, chest tube drainage should be considered in order to improve the patient's prognosis of recovery. The case study of a young diabetic man who presented with severe hypoxemia as a result of severe pneumonia with hydropneumothorax is detailed in this abstract.

Case description: A 20-year-old gentleman with underlying diabetes mellitus, non-compliant with follow-up, presented to the emergency department with 3 days history of fever, cough and breathlessness. Upon arrival, he was alert and fully conscious but appeared tachypneic. His vital signs were as follows: blood pressure of 143/73, temperature of 37.1, heart rate of 132 beats per minutes, respiratory rate of 35 and oxygen saturation (SpO2) of 86% on room air. Following VM60%, with a maximal SpO2 of 94% at its peak, he was transferred to a high flow nasal cannula FiO2 0.6, with a flow rate of 60L/min and 97% at its peak. Chest X-ray revealed left lower zone consolidation with a well-defined lucency lesion retrocardiac. Patient further desaturated in 10 hours and necessitated up to FiO2 1.0 to achieve SpO2 98%. Thus, proceeded with elective intubation. A contrast-enhanced CT (CECT) of the thorax was performed and showed a loculated pleural collection with an air-fluid level in the left mid and lower hemithorax, with a maximum depth of 4.0cm, suggestive of hydropneumothorax likely due to infection. Following admission to the intensive care unit, the patient was co-managed by respiratory team. IV flagyl was added to the course of antibiotics beside ceftriaxone and azithromycin.

Discussion: Numerous factors can lead to hydropneumothorax, such as infection, malignancy, cystic lung disease, complication of an invasive procedure, and infrequently connective tissue disorders. The underlying cause will dictate the course of treatment. The diagnosis of hydropneumothorax is suspected from chest x-ray and confirmed by computed tomography.

Conclusion: This case underscores the need to consider loculated hydropneumothorax who require high ventilation setting. Early recognition, accurate diagnosis through imaging and prompt intervention are crucial in treating a diabetic patient with hydropneumothorax secondary to severe pneumonia.

Keywords: Hydropneumothorax, pneumonia

095

LOST IN THE FOREST : A DIAGNOSTIC CONUNDRUM OF A LUMP

Krisnavini Sugumaran[1], Jien Wey Beh[1], Mashitah Mohamed Ismail[1]

[1]*Emergency & Trauma Department, Hospital Sultan Abdul Halim, Kedah, Malaysia*

Introduction: Psoas abscess is a purulent collection in the iliopsoas muscle compartment. Primary psoas abscess is rare in females and is often misdiagnosed in the early stages.

Case Description: A 43-year-old lady with underlying cholelithiasis presented to the Emergency and Trauma Department (ETD) with a 3-day history of right loin to groin pain, fever and dysuria. Upon arrival, she was afebrile, her blood pressure was 126/83 mmHg with pulse rate of 160 beats per minute. Electrocardiogram showed sinus tachycardia. Examination noted a huge, tender, non-mobile swelling on her right flank measuring 10cm x 8cm with no overlying skin changes. Right hip examination was unremarkable. Bedside urinalysis was positive for leukocytes and erythrocytes. A Point-of-Care- Ultrasound (POCUS) was performed and revealed a large right kidney, hydronephrosis and dilated renal pelvis. Combining the POCUS findings and plain abdominal radiograph which showed right nephrolithiasis, the initial diagnosis of perinephric abscess was made. Patient was given broad-spectrum antibiotics and proceeded with contrast-enhanced computer tomography (CECT) of abdomen and pelvis which revealed a large rim-enhancing multiloculated collection at the right retroperitoneal region originating from right psoas muscle measuring 11cm(AP) x 9cm(W) x 13cm (CC), which has ruptured into right *quadratus lumborum* and posterior abdominal wall. There was also a large calculus measuring 2.3cm x 1.3cm x 2.4cm at the right pelviureteric junction causing moderate hydronephrosis and hydroureter. She underwent open drainage of right psoas muscle, which drained 1 litre of pus; and was subsequently discharged well.

Discussion: The classical psoas abscess triad of fever, limp and back pain only occurs in 30% of patients, thus leading to misdiagnoses of hip arthritis, gastrointestinal and genitourinary pathologies. CECT remains the gold standard in the diagnosis of psoas abscess.

Conclusion: Nonspecific symptoms of primary psoas abscess frequently led to diagnostic dilemma causing treatment delay, thus increasing morbidity and mortality. Therefore, emergency clinicians should have a high index of suspicion and consider early imaging to improve patient's outcome.

Keywords: Iliopsoas abscess, psoas abscess, retroperitoneal abscess

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

096

UNMASKING THE SILENT KILLER: RABIES MIMICKING NEUROLOGICAL DEFICITS IN SARAWAK

Ng Ren Zen[1], Mohd Zaim Bin Abdullah Zawawi[1], Jordan Hoo Ching Bing[1], Lim Yunn Li[1]

[1]*Department of Emergency and Trauma, Sarawak General Hospital, Kuching*

Introduction: Rabies remains a significant public health concern in regions like Sarawak, where cases often present with neurological deficits and a history of animal bites. Rabies and rabies-like illnesses are caused by a species of neurotropic viruses in the Rhabdoviridae family, genus Lyssavirus, which migrate centrally in a retrograde direction within the axoplasm of peripheral nerves until reaching the spinal cord and brain. Transmission primarily occurs through bites from rabid animals, with dogs accounting for the majority of cases in Sarawak.

Case Presentation: A 54-year-old Bidayuh woman with hypertension and dyslipidemia presented to the emergency department with generalized body weakness and fever, alongside a recent history of a dog bite in Sarawak. Neurological examination revealed bilateral lower limb paraplegia, initially raising suspicion for Guillain-Barré syndrome, with rabies also considered as a potential differential diagnosis. The patient was admitted to Sarawak General Hospital for further evaluation and management. Despite receiving the complete series of rabies vaccination and rabies immunoglobulin, her condition deteriorated, and she died in the ward. A final diagnosis of rabies encephalitis was made based on clinical findings, supported by radiological investigations.

Discussion: Clinical manifestations of rabies include an initial prodromal phase with nonspecific symptoms, followed by an acute neurologic phase characterized by either encephalitic or paralytic rabies. Diagnosis of rabies before death requires a high index of suspicion, especially in regions where the disease is endemic. Managing rabies involves immediate wound cleansing, post-exposure prophylaxis with the rabies vaccine and immunoglobulin, and intensive supportive care for symptomatic patients. Public health measures like vaccination of domestic animals, controlling stray populations, and educating the public are crucial in preventing rabies and reducing mortality in resource- limited settings.

Conclusion: This case serves as a reminder of the importance of vigilance for rabies in patients presenting with neurological deficits and a history of animal bites, especially in endemic regions like Sarawak. Early recognition and initiation of appropriate management are essential to mitigate the devastating consequences of this deadly infection.

Keywords: Rabies, neurological deficits, animal bites.

097

"IT TAKES TEAMWORK TO SAVE A BROKEN HEART"

A CASE OF BEDSIDE EMERGENCY THORACOTOMY FOLLOWING A RIGHT ATRIAL WALL RUPTURE SECONDARY TO BLUNT CHEST TRAUMA.

Muhammad Afiq Ismail[1], Khairul Nizam[1]

[1]*Department of Emergency and Trauma, Hospital Tengku Ampuan Afzan, Kuantan, Pahang*

Introduction: Blunt cardiac trauma is reported in 10% of total Emergency Department (ED) trauma load. Its spectrum varies from myocardial contusion to the life threatening Cardiac Wall ruptures. The challenges comes from its low incidence and a notoriously high mortality rate (90%) prompting rapid identification and intervention by the ED team. We would like to report a case of traumatic cardiac rupture which underwent Emergency Thoracotomy in the ED.

Case Report: A 72 years old lady presented to our Emergency Department with chest pain after she was hit by a car to the chest. Initial assessment showed evidence of obstructive shock (BP 90/52) with distended neck veins. Bedside Efast showed moderate amount of pericardial effussion with no evidence of cardiac tamponade. She rapidly deteriorated and developed cardiac arrest. CPR was commenced and Cardiothoracic (CTC) team was activated. Following ROSC, Emergency Thoracotomy was performed by CTC team in the ED with an intraoperative finding of right atrial wall rupture. Post-operatively, patient was transferred to Cardiac Intensive Care Unit (CICU).

Discussion: Blunt cardiac rupture is defined as full-thickness myocardial laceration. Its incidence was reported to be as low as 0.007–0.45% and a mortality rate as high as 80-90%, These injuries are commonly associated with direct high energy trauma to the chest with 70% of cases were due to MVA.Establishing diagnosis and rapid identification by ED team is crucial as patient may present with shock due to cardiac tamponade or massive blood loss. EFAST may act as an effective and ideal tool in aiding the diagnosis by detecting pericardial effussion and cardiac tamponade. Upon confirmation of blunt cardiac rupture, immediate Emergency Thoracotomy is indicated as an attempt to improve patients's survival preferrably in the operation theater. However, in this case due to haemodynamic instability, Emergency Thoracotomy was performed in the ED.

Conclusion: Blunt cardiac injury is a life-threatening injury with a major diagnostic challenge. It should be suspected in a high impact trauma to the chest especially involving rapid deceleration. ED plays a crucial role as early detection and immediate thoracotomy will significantly improve the patient's survival.

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

098

CASE REPORT OF CT BRAIN FINDING IN NON-KETOTIC HYPERGLYCEMIC HEMIBALLISMUS-HEMICHOREA IN PATIENT WITH CHRONIC UNCONTROLLED DIABETES MELLITUS

Wan Muhammad Faris Bin Wan Yusoff[1], Tengku Mohd Azimin[1]

[1]*Department of Emergency and Trauma, Hospital Raja Perempuan Zainab II, Kota Bharu, Kelantan*

Background: Non-ketotic hyperglycemic hemiballismus-hemichorea (NKHHH) is considered as one of the rare complications of diabetes. Presentation of hemiballismus-hemichorea (HB-HC) is often associated with neurological condition commonly found in stroke. Hence, basic imaging such as plain CT-brain is needed to exclude differentials. However, findings for NKHHH are often mis-looked even by the radiologist. Hence, here is a case of NKHHH with a typical CT-brain finding.

Case Report: A 55-year-old woman with diabetes who presented with involuntary movements of right upper limb and right facial muscle twitching for the past two days. At emergency department, patient was alert, conscious and was slightly hypertensive with glucometer of 22mmol/L and blood ketone of 0.8mmol/L. Physical examination reveals patient has brief episodic abnormal, non-purposeful movement of right upper limb consistent with hemiballismus and hemichorea. There was also a non-rhythmic twitching movement involving the right side of the face. Besides the involuntary and repetitive right-sided movements, the remaining neurological exams were unremarkable.

CT scan was done to rule out acute brain pathology and finding of hyperdense lesion in basal ganglia region contralateral to the affected side seen. Patient was treated as NKHHH which prompted insulin infusion and anti-choreic medication which shows gradual improvement.

Discussion: HB-HC in uncontrolled diabetes is a rare complication. CT brain can be used to diagnose NKHHH and rule out other causes of HB-HC such as acute stroke. Initial CT brain might appear normal but would later demonstrate hyperdensity in the striatal region (caudate nuclei and putamen) contralateral to the body side affected by HB-HC. The exact underlying pathophysiology of NKHHH is not fully understood. Two of the popular hypotheses include hyperglycaemia-induced hyperviscosity leading to regional blood-brain barrier disruption causing metabolic damage and decreased gamma-aminobutyric acid (GABA) availability in the striatum caused by non-ketotic state.

Conclusion: HB-HC in the setting of non-ketotic hyperglycaemia is uncommon but treatable. The sudden onset of unilateral HB-HC in long-standing diabetes and typical hyperdensity over basal ganglia can justify the diagnosis of NKHHH which can prompt early treatment in emergency department.

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

099

THE SEPTUAGENARIAN'S HERNIA: DECEPTIVELY DEADLY

Zhen Huan Loo[1], Aaron Kuo Huo Lai[1]

[1]*Accident & Emergency Department, Sunway Medical Centre, Selangor, Malaysia*

Introduction: Obturator hernias (OH), which account for only 1% of all abdominal wall hernias, frequently cause bowel obstruction in over 80% of cases. Due to their nonspecific symptoms and subtle signs, these hernias often result in delayed diagnosis and presentation, leading to increased morbidity and mortality. This issue is particularly pronounced in elderly patients, who may be emaciated and unable to effectively communicate their symptoms, further delaying diagnosis and treatment.

Case description: A multiparous 75-year-old woman, with no known medical history presented with a sudden onset of severe, colicky pain in her left groin. She reported similar symptoms intermittently for past 3 months with on and off constipation. Patient is hemodynamically stable and abdominal examination only showed tenderness over left groin. An abdominal X-ray revealed focal, marginally dilated small bowel loops in the pelvic region, suggesting a possible bowel obstruction. A subsequent computed tomography (CT) scan of the abdomen identified an OH causing the small bowel obstruction. The patient had an emergency laparoscopic repair of the obstructed hernia and was subsequently discharged in good condition.

Discussion: OH is rarely diagnosed preoperatively, with only 20-30% of cases identified due to its vague symptoms and subtle physical signs. OH, also known as "little old lady's hernia," affects women nine times more often than men due to their broader pelvis, which has a larger triangular obturator canal opening with a greater transverse diameter, as well as a history of pregnancy. Several studies have indicated high morbidity and mortality rates in these cases, with morbidity reaching 75% and mortality up to 47.6%. Early diagnosis and appropriate perioperative resuscitation are critical for improving surgical outcomes.

Studies have demonstrated that CT scans are recommended for detecting OH. CT scans should be considered as first-line investigation for diagnosing acute abdominal symptoms in elderly due to their ability to provide rapid and accurate diagnosis, especially in cases with unclear symptoms and physical signs.

Conclusion: Clinicians should prioritize recognizing obturator hernias, especially in elderly multiparous women with unexplained intestinal obstruction, due to the poor outcomes linked to delayed diagnosis.

Keywords: Obturator hernia, acute abdomen geriatric

100

LIFE-SAVING POCUS: DIAGNOSING AND MANAGING PERICARDIAL EFFUSION IN A TEEN WITH HODGKIN LYMPHOMA

Ng Ren Zen[1], Mohd Zaim Abdullah Zawawi[1]

[1]*Department of Emergency and Trauma, Sarawak General Hospital, Kuching*

Introduction: Early identification and management of pericardial effusion are crucial, especially in young patients presenting with non-specific symptoms. This case report highlights the life-saving potential of bedside ultrasound in the emergency department (ED).

Case Presentation: A 16-year-old male with underlying psoriasis presented to the ED with a 4-month history of fever, cough, myalgia, and weight loss. On examination, he was noted to be normotensive, tachycardic with a low-grade temperature. The patient also had matted cervical lymph nodes with hepatosplenomegaly. Bedside Point-of-Care Ultrasound (POCUS) echocardiography showed pericardial effusion with a "dancing heart," raising suspicion of cardiac tamponade.

The ED team performed an ultrasound-guided pericardiocentesis, extracting hemoserous fluid. The sample was sent for further investigation. The patient was admitted to the medical ward and provisionally treated for pericardial effusion secondary to tuberculosis. Histopathology investigations confirmed a diagnosis of Hodgkin's lymphoma.

Discussion: Classical Hodgkin's disease clinical signs include non-specific B symptoms and palpable lymphadenopathy. An unidentified fever may be the initial symptom of Hodgkin's lymphoma. The complication of pericardial effusion in Hodgkin's lymphoma is rare. It is brought on by metastasis-related venous or lymphatic blockage of the pericardial fluid. A patient is diagnosed with cardiac tamponade if the intrapericardial pressure is higher than the heart's filling pressures.

Over the past ten years, Point-of-Care Ultrasonography (POCUS) has grown in importance as a key component of the contemporary emergency room. In this instance, it has been helpful in diagnosing a pericardial effusion that is getting closer to cardiac tamponade by causing symptoms like diastolic collapse of the right ventricle.

Additionally, it helped direct the pericardiocentesis, which saved the patient's life.

Conclusion: This case underscores the critical role of bedside ultrasound in the ED for promptly identifying pericardial effusion in patients presenting with tachycardia and vague symptoms. Bedside ultrasound not only aids in diagnosis but also assists in performing life-saving procedures. Emergency medicine practitioners should leverage POCUS to enhance diagnostic accuracy and procedural safety in critical cases.

Keywords: Bedside ultrasound, cardiac tamponade, pericardiocentesis

101

THORACIC TRAUMA : A CASE REPORT ON TRAUMATIC AORTIC DISSECTION

Viknish Raja Segaran[1], Nur Adilia Binti Adris[1], Ting Chiew Yuen[1], Azmir Bin Anuar[1], Chung Wai Mun[1]

[1]*Medical Officer, Emergency and Trauma Department, Hospital Taiping, Perak.*

Introduction: Traumatic aortic dissection (TAD) is a rare but potentially life-threatening consequence of blunt chest trauma, particularly in motor-vehicle accidents (MVA). We present a MVA case brought to emergency department (ED), where the clinical presentation and examination findings led to the provisional diagnosis of TAD.

Case Description: A 75-year-old gentleman was involved in a high impact collision between a car which skidded onto a tree. Post trauma, he had pain over his chest with difficulty breathing. On arrival to ED of a district hospital, his GCS was full with reactive pupils however he was hypotensive, tachycardic, tachypneic and hypoxic. Physical examination revealed minimal trachea deviation to the right with no elevated JVP . There was tenderness over bilateral anterior chest with unremarkable auscultation findings over lungs and heart. His perfusion was good and had no radio-radial or radio-femoral delay. No free fluid or pneumothorax on EFAST. ECG showed sinus tachycardia with right bundle branch block. Chest x-ray (CXR) revealed widened mediastinum with left lung contusion. The patient was transported to our ED in tertiary center for Contrast Enhanced Computered tomography (CECT) thorax, abdomen and pelvic which reported as thoracic aortic injury described by intimal flap at aortic arch with hemopneumomediastinum, bilateral hemopneumothorax and lung contusions. Echocardiogram demonstrated DeBakey type III aortic dissection. Thoracic endovascular aortic repair (TEVAR) was done successfully.

Discussion: To make the diagnosis of aortic dissection, a high suspicion should be kept in mind, especially with the presence of the high-risk clinical triad: acute sharp chest/abdominal pain, a variation in pulse and/or blood pressure, and mediastinal widening on CXR. Clinical criteria for aortic dissection are poorly defined. Thus, 35% of aortic dissections remain unsuspected in vivo, and 99% of suspected cases can be refuted. Given the mechanism of injury, clinical findings, evidence of mediastinal widening on CXR and exclusion of other immediate life-threatening conditions, the provisional diagnosis of traumatic aortic dissection was considered. Urgent transfer to a tertiary care center with advanced imaging capabilities was arranged for confirmation and definitive management.

Conclusion: It is essential for healthcare providers, particularly in district hospitals, to be equipped with knowledge and skills required for initial stabilization and safe transfer to specialised centers.

Keywords: Traumatic aortic dissection

102

DIFFICULT VENTILATION IN A TRACHEOBRONCHIAL INJURY

Abdul Khalid Salleh[1], Mohd Hafis Mohamed Sakan[1], Rabiha Mohd Alip[1]
1Emergency and Trauma Department, Hospital Melaka, Melaka, Malaysia

Introduction: We described a polytrauma case with severe chest injury who sustained tracheobronchial injury and severe alveolar air leak. Patient developed persistent hypoxia from the severe leak, necessitating a change in ventilation strategy. We performed various interventions in the ED to minimise alveolar air leak that led to his improved oxygenation and ventilation.

Case report: A 45 YO male involved in MVA, sustained severe chest injury. Primary survey revealed Left tension pneumothorax & finger decompression was performed followed by left tube thoracostomy. Patient was intubated and ventilated using the injured lung strategy, ie the Lung Protective Ventilation.

Patient subsequently having persistent desaturation and frequent hypotensive episodes. Persistent and constant bubbling of chest tube throughout inspiration and expiration with worsening subcutaneous emphysema rose the suspicious of alveolar air leak or bronchopleural fistula. Another tube thoracostomy was inserted on the left chest and ventilator strategy was changed to remedy the persistent leak and hypoxia while maintaining normal low Mean airway pressure. Emergency bronchoscopy revealed laceration near carina and an immediate CT thorax revealed a subtle defect at the posterior tracheal wall suggestive a tracheal injury along with left lung laceration. Patient was subsequently referred to cardiothoracic team for further management. He achieved good saturation throughout his ED stay and his mean airway pressure maintained within normal limits. He was later admitted to ICU for close monitoring and conservative treatment.

Conclusion: We need to maintain high index of suspicion when managing patient with severe thoracic trauma of the possibilities of tracheobronchial injury and alveolar air leak. These necessitate a change in ventilation strategy to optimise lung mechanics, improve oxygenation while at the same time maintaining lung inflation and prevent worsening of air leak.

103

LOOK INFRACLAVICULARLY! THE ROLE OF AXILLARY VEIN CENTRAL CANNULATION IN CRITICALLY ILL TRAUMA PATIENTS

Gurjeet Singh Harvendhar Singh[1], Sharifah Sofiah Syed Azman[1]

[1]*Department of Emergency and Trauma, Hospital Selayang*

Introduction: Central venous access is essential in resuscitation of critically ill patients in emergency department (ED). Challenges are faced when attending to trauma patients with neck and pelvic injuries where common access to central cannulations are no longer possible. We present a case of which these limitations were encountered and axillary central vein cannulation was done as an alternative in obtaining venous access.

Case description: A 19-year-old lady presented to our ED by ambulance following a motor vehicle accident of which her motorcycle skidded due to slippery road on her way to work. Trauma alert was activated and patient was sent to the Damage Control Suite (DCS) Upon assessment, she was drowsy but arousable and shock index calculated was high. Primary and secondary survey done revealed a suspected cervical, pelvic and right upper limb injuries with a negative extended FAST scan.

Immediate venous access was required for resuscitation and attending team faced difficulties in view of her multiple injuries sustained. We proceeded with ultrasound-guided axillary vein central cannulation and patient was successfully resuscitated.

Discussion: With better accessibility of ultrasound machines in ED, we have seen increased usage of ultrasound-guided vascular access in cases of difficult cannulation. Although the practice of axillary vein cannulation is not as often seen in ED, it can be considered when facing difficulty in obtaining venous access especially critically ill trauma cases due to the sustained injuries. The procedure must be done ideally using aseptic technique but in situations when venous access is required quickly for resuscitation, a clean procedure must be ensured. Access is obtained ideally using a central or trauma line, with use of angiocatheter or a large bore cannula as an alternative. Anticipated complications with this procedure includes axillary artery injury and pneumothorax. Axillary vein as an alternative central cannulation has been looked into in previous studies where it is being practiced for procedures such as cardiac surgery or in intensive care settings.

Conclusion: Axillary vein central cannulation is useful as an alternative route of venous access in resuscitating critically ill trauma patient with suspected neck, upper limbs and pelvic injuries.

Keywords: trauma, central vein cannulation

104

STOP ! I'M NOT STRAWBERRY FANTA ! : A CASE OF HOUSEHOLD CLEANING PRODUCT (HCP) INGESTION

Geetasha Gwen Ng[1], Sharmeni Devi[1], Alzamani Mohammad Idrose[1], Rebecca Priya[1], Lim Yee Fei[1], Renuka Kumaraguru[1], Azmil Putra[1]

[1]*Department of Emergency and Trauma, Hospital Kuala Lumpur*

Introduction: Household cleaning product (HCP) are usually corrosive. They can be either strongly acidic or alkalic. We present a case of accidental ingestion of HCP placed in drinking bottle.

Case Description: A 10 years old Indonesian boy with underlying asthma was brought to our centre. He ingested a single gulp of bright pink liquid detergent placed in a F&N bottle in the living room mistaking it for a soft drink. Post ingestion he vomitted a large amount of coffee ground vomitus. Upon arrival to ED he was drowsy with drooling of saliva and having urinary incontinence. Vitals on arrival: BP:100/60, HR: 70, RR:18, DXT: 7.3, SPO2:95% under room air. Physical examination showed eroded throat lining with mild edema. Mother brought some clothes stained with the ingested material that showed multiple holes and thus it is highly corrosive. Child was then intubated for airway protection. CXR showed perihilar haziness indicating chemical pneumonitis. Child was given 3 doses of IV Dexamethasone. Post intubation blood gas revealed metabolic acidosis. IV Plasmanate administered and then transferred to PICU for further investigation and treatment. Subsequently tracheostomy was performed. The child recovered subsequently and discharged with follow up by surgical team.

Discussion: The constituent of the ingested household cleaning product is unknown to mother. In PICU, bronchoscopy findings revealed sloughy esophagus lining through the entirety of esophagus length. OGDS findings revealed presence of erythema and areas of necrosis and slough over entire stomach walls as well as pylorus wall erythema (Grade IIIA). Fortunately, there was no perforation or stricture. In some studies antacids and antibiotics were prescribed within 48 hours of poisoning to reduce the risk of esophageal stricture. The role of steroid in preventing stricture remains unclear but a three day course of high dose IV Dexamethasone can be given to patients with caustic esophageal injuries to decrease the risk of esophageal stricture.

Conclusion: Exposure to household cleaning agents (HCP) is a common cause of unintentional poisoning especially in the pediatric population. This case demonstrated the adverse outcome of HCP ingestion. The public needs to be careful and avoid placing toxic substances in bottle drinks.

105

YOUNG ICE BABY: CASE OF INADVERTENTLY AMPHETAMINE AND METHAMPHETAMINE POISONING IN PAEDIATRIC PATIENT

Phylicia Lim Yi-Tynn[1], Nor Atiqah Binti Sulaiman[1], Ruth Sabrina Safferi[1]

[1]*Department of Emergency and Trauma Hospital Raja Permaisuri Bainun, Ipoh, Perak, Malaysia*

Introduction: Methamphetamine is a highly addictive psychostimulant drug that is a derivative of amphetamine which produces euphoria and stimulant effects. Hereby we present a paediatric case with sympathomimetic toxidrome.

Case report: A 1 year 11 months old girl with no comorbid, presented with altered behaviour after nine hours of ingested unknown liquid substance. The child was brought to a nearby park near her house for playing. However, her mother witnessed that she allegedly drank an unknown "small plastic bottle" liquid found at the park through sipping from the straw. Post ingestion, the child appeared irritable with persistent crying, refused feeding, with repetitive chewing. Parents seek medical attention from general practitioners but was told that child's behaviour was normal. The child was fretful with inconsolable crying and persistent screaming. Vital signs noted hypertension and tachycardia with normal oxygen saturation. Other systemic examinations unremarkable. Pupils were 3 mm reactive. She also found to have high Creatinine Kinase (682 U/L) with positive amphetamine and methamphetamine from bedside urine toxicology test. Intravenous Midazolam 0.2-0.3 mg/kg were given in a titrated dose to the child. Urinary catheter was inserted for urine output monitoring. A maintenance intravenous drip was administered for adequate hydration with optimal urine output. Child was admitted to the paediatric high dependency unit for close monitoring.

Discussion: Paediatric methamphetamine toxicity commonly manifests with sympathomimetic signs. Psychomotor agitation is a hallmark of sympathomimetic toxicity from methamphetamine which is important for providers to recognize, since supporting history is frequently elusive in this age group. Atypical or unique clinical manifestations often confused with alternative diagnoses which may delay in diagnosis and treatment. In this case, child had repetitive chewing, an indicator of abnormal motor activity which is prevalent in the youngest age group. Titrated benzodiazepines were used for agitation control. Closed monitoring for the side effects from benzodiazepines need to be done.

Conclusion: In conclusion, early recognition of sympathomimetic toxidrome among paediatric patients is important through their clinical presentation. Other differential diagnoses including non-accidental injuries should be ruled out and suspected once diagnosis is made and to be reported to relevant authorities accordingly.

Keywords: Paediatric toxicology, sympathomimetic.

106

SURVIVING THE HOT SCORCH : A CASE REPORT ON SEVERE HEAT STROKE

Noor Anisa Binti Faisal[1], Shahira Ruslan[1], Grace Lim Wan Chen[1]

[1]*Department of Emergency and Trauma, Hospital Sultanah Maliha, Langkawi*

Introduction: Exertional heat stroke(EHS) is characterized by an elevation of core temperature of more than 40 C and accompanied by central nervous system dysfunction related to strenuous activities. Complications include rhabdomyolysis and multiorgan failure,with a high mortality rate. We present a patient who survived severe EHS with multiorgan failure.

Case: A 22-year-old police trainee lost consciousness during outdoor training in high temperature and humidity conditions. At casualty, GCS was 3 with pinpoint pupils, BP 91/67 and HR 168. External skin temperature was 39 C. In view of history of doing strenuous activities and altered mental status, diagnosis of heat stroke was established. Copious IV fluids and immediate cooling measures such as application of cold packs, cooling fans and tepid sponging was done. Patient was intubated for airway protection and required vasopressors. He subsequently developed 2 episodes of fitting which were aborted with IV Valium 5 mg. Initial blood investigations revealed high lactate with metabolic acidosis, acute kidney injury (AKI) and CK of 4265 IU/L. However, liver enzymes and coagulation profile were normal. In the Intensive Care Unit (ICU), he developed worsening AKI, rhabdomyolysis, acute liver failure and coagulopathies. He required a total of 14 cycles of hemodialysis, N- Acetylcysteine(NAC) and prothrombin complex concentrate(PCC). His ICU stay was complicated by acute pulmonary edema and bacterial bloodstream infection. After 50 days of hospitalization, he was discharged with normal blood parameters.

Discussion: EHS leads to a cascade of physiological events that may result in multiorgan failure. Extreme heat can denature proteins, disrupt cell membranes, cause cellular dysfunction and cell death. EHS also causes severe dehydration and electrolyte imbalances due to inadequate fluid intake and excessive sweating,leading to ischemia. The systemic inflammatory response is also activated,causing the release of pro-inflammatory cytokines and immune cells which exacerbates tissue damage. All these responses to extreme heat can cause multiorgan failure in EHS.

Conclusion: EHS has a high mortality rate if early recognition and immediate cooling measures are not initiated. Therefore, it is imperative for clinicians to recognize EHS early and start active cooling.

Keywords: Heat stroke,heat related illness,multiorgan failure

107

THE SILENT SABOTEUR: A CASE OF URINARY RETENTION IN ADOLESCENT WITH IMPERFORATE HYMEN

Wendy YR Ong[1], YZ Lok[1], SS Soo[1]

[1]*Department Of Emergency Medicine, University Malaya Medical Centre, Kuala Lumpur, Malaysia*

Introduction: Imperforate hymen (IH) is a rare congenital anomaly of the female genital tract which can bring forth a variety of complications. Besides being an uncommon cause of primary amenorrhea, patients can also display genital and urinary tract obstructive symptoms.

Case Description: A 12-year-old girl who has yet to attain menarche was presented to the Emergency Department (ED) with a history of fever, lower abdominal pain, and loose stool, without any urinary symptoms. She was hemodynamically stable, but abdominal examination showed suprapubic tenderness. She then reported difficulty urinating in the ED and was unable to void despite multiple attempts. Upon reassessment, a palpable bladder and a bulging hymen were noted. Bedside scan showed a distended bladder and a pelvic mass with mixed echogenicity, indicating hematocolpos. After catheterization, 700 ml of urine was drained. She was referred to the Gynaecology team and admitted for a hymenectomy.

Discussion: Acute urinary retention (AUR) is unusual especially in teenage girls. The causes can be obstructive, infectious, pharmacological or neurological. Clinicians should consider gynaecological factors when evaluating AUR in teenage girls. This case illustrates how hematocolpos due to IH causing AUR with only about 40 documented cases can be easily missed, especially in the ED where initial presentations might suggest more common diagnoses like acute gastroenteritis or urinary tract infection (UTI). IH occurs only in 0.05% of women. The sudden onset of AUR in the ED was a pivotal clue leading to the correct diagnosis. Failure to conduct a genital examination in adolescent girls presenting with urinary difficulties in emergency departments can lead to the oversight of IH.

Utilizing point-of-care bedside ultrasonography offers emergency physicians a valuable chance to diagnose hematocolpos secondary to IH. This is particularly beneficial considering the broad range of initial symptoms. Proper use of bedside ultrasonography can swiftly and accurately narrow down the potential diagnoses.

Conclusion: In adolescent girls with AUR, hematocolpos due to IH should be considered. High suspicion, thorough history, and proper imaging can enable prompt diagnosis and treatment, to prevent complications such as infections, renal failure, endometriosis and infertility later in life.

Keywords: Acute urinary retention, imperforated hymen

108

LIVING MY WORST NIGHTMARE: MATERNAL CARDIAC ARREST

Marcella Dorainne Mansah[1], Sareth Raj Kesavaraj[2], Firdaus Bin Yahaya[1], Nasrul Fadhli Kusdi[1]

[1]*Department of Emergency and Trauma, Hospital Tuaran, Sabah*

[2]*Department of Emergency and Trauma, Hospital Queen Elizabeth, Sabah*

Introduction: Perimortem caesarean section (PMCS), is the surgical delivery of the fetus, performed within 4 minutes of witnessed maternal cardiac arrest (CA). It is a resuscitative procedure done beyond 23 weeks of gestation, aimed for increased survival chances for mother and fetus. We, hereby present a case of PMCS in a District Hospital with favorable maternal outcome.

Case Description: A 22 years old, un-booked, Gravida 3, Parity 0+2, presented to Emergency Department (ETD) at 5 pm with generalized tonic-clonic seizures since 8am. Red Alert Protocol was activated for eclampsia. Intravenous loading of Magnesium Sulphate was given while securing the airway. Patient arrested during intubation, cardiopulmonary Resuscitation (CPR) and PMCS was initiated. Airway was secured and intravenous crystalloids boluses of 20ml/kg infused. PMCS was performed by obstetric trained district Medical Officer. Still birth fetus delivered 10 minutes of CPR initiation. Massive Transfusion Protocol initiated during PMCS. A total of 3 unit of packed cells and 4 units of fresh frozen plasma given. Patient revived after 30 minutes of arrest and her vitals were blood pressure of 160/101 mmHg, heart rate of 100 beat per minute and saturated at 100% on ventilator. Her blood pressure was further controlled with labetalol and magnesium sulphate infusions. Patient was transferred to a tertiary hospital ICU. She was intubated for 8 days, admitted in ICU for total of 14 days, then discharged from the general ward after 8 days with no neurological deficit.

Discussion: Maternal CA posts various challenges in terms of resuscitation and stabilization.

PMCS aims to improve maternal cardiac output by relieving aortocaval compression and reduce uterine flow. Hospital Tuaran is a district hospital situated 30 km from the nearest tertiary hospital. We faced challenges in terms of equipment, experience, and logistics. Nevertheless, team dynamics, hospital alert systems and inter-facility transfer system contributed to the favorable outcome in this patient.

Conclusion: Maternal cardiac arrest is rare in many emergency departments. Nevertheless, respond pathways, equipment, and skill to perform PMCS should be in place especially in a district hospital to ensure better chance of survival for mother and fetus.

Keywords: PMCS, maternal cardiac arrest

109

THE PELVIC INJURY DILEMMA

Nur Liyana A.M.[1], Amrita K.S. [1], Muhammad Naeem A. [1]

[1]*Department Of Emergency & Trauma, Hospital Kulim, Kedah*

Introduction: Hemi-sacralization refers to the fusion of the fifth lumbar vertebra with one side of the sacrum and may be associated with lower back pain. This congenital abnormality may present a diagnostic challenge in managing a trauma patient, as the deformity can complicate interpretation of a plain radiograph.

Case Description: Following a motor vehicle accident, a 60-year-old Chinese woman reported persistent lower back discomfort. Examination revealed tenderness over the sacral region but no other signs of pelvic injury. Her neurological examination was unremarkable, and serial EFAST scans were negative. She remained hemodynamically stable. A pelvic radiograph showed a deformity in the left sacroiliac region, raising suspicion of a possible pelvic fracture. A pelvic binder was applied, and the case was referred to the orthopaedic team, who diagnosed her abnormal pelvic radiograph as hemisacralization of the pelvis without subjecting her to a CT pelvic scan.

Discussion: A pelvic radiograph rules out the cause of hemodynamic instability from pelvic fracture in trauma however does not rule out pelvic injury. Plain radiograph is especially insensitive for posterior fractures involving the sacrum and iliac wings. Even CT may be only 77% sensitive for pelvic fractures in the elderly, particularly with nondisplaced posterior fractures in osteoporotic bone with some literature advocate to even consider MRI for patient with pelvic pain but negative CT imaging. Accurate identification of pelvic injury is essential during trauma to mitigate the risk of missing a pelvic injury that may lead to a devastating consequence.

Conclusion: Patients presenting with pelvic tenderness or deformity should be managed according to ATLS protocols for pelvic injury until proven otherwise. It's crucial to establish consensus among various teams to expedite diagnostic imaging and confirm diagnosis promptly, bypassing the traditional approach of requiring a primary team evaluation prior to imaging. Enhanced education for emergency healthcare workers is essential to underscore that CT scans represent the gold standard for ruling out pelvic injuries, rather than relying solely on plain radiographs and primary team interpretation. This ensures a more accurate and timely diagnosis, leading to improved patient outcomes.

Keywords: Hemi-sacralization, Pelvic fracture

110

THE SWEET EYE : A CASE OF MONONEURITIS MULTIPLEX

Rebecca Priya A/P Somasundram[1], Sharmeni Devi[1], Renuka Kumaraguru[1], Alzamani Mohammad Idrose[1], Geetasha Gwen Ng[1]

[1]*Department of Emergency and Trauma, Hospital Kuala Lumpur*

Introduction: Mononeuritis multiplex is a rare diabetic neuropathy defined by acute or subacute asymmetric sensorimotor paralysis of 2 or more peripheral nerves. Although Diabetic Mellitus is often included as a cause of mononeuritis multiplex, there are very few case reports in the literature. We present such case that presented at our centre.

Case Description: A 73-Year-old female with underlying Diabetes and Hypertension came with sudden onset of left eyelid drooping, associated with pain and diplopia for the past 5 days. Upon examination BP :201/101 and dextrose was 18mmol/L. Elevated blood sugar level at presentation suggest poor glycemic control. Examination revealed left eye exotropia and hypertrophic complete ptosis. Pupil were equal bilaterally. The conjunctiva was white and not erythematous. Unaided left eye visual acuity 6/18. Contrast enhanced CT and CT angiography of the brain revealed no focal enhancing parenchymal lesion and cerebral artery aneurysm. Other potential causes include paraneoplastic syndrome, connective tissue and giant cell arteritis was ruled out.Patient was referred to neuro ophthalmology team and diagnosed with complete 3rd nerve palsy (pupil sparing) of the left eye due to mononeuritis multiplex. Patient was discharged with a follow up to optimize glucose level.

Discussion: Mononeuritis multiplex is a rare form of diabetic mononeuropathies. It is characterized by diplopia, complete ptosis and pain. Other common form of diabetic mononeuropathies are due to entrapment and less commonly due to nerve infraction from occlusion of vasa nervosum. Patients respond to strict glucose control and immunosuppressive therapy may be considered in addition to that.The prognosis is favorable even though it may take months or years for the neuropathy to completely resolve.

Conclusion: Mononeuritis multiplex should be considered in patients presenting with complete ptosis (3rd nerve palsy) associated with pain and diplopia. Equal pupil size points more towards medical rather than surgical cause. Contrast enhanced CT of the brain is necessary to rule out other causes in making this diagnosis. Treatment consist of strict glucose control and medication adherence which can reduce the nerve damage.

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

111

THE LETHAL GULP: A RARE PRESENTATION OF ACUTE FLACCID PARALYSIS FOLLOWING CHLORPYRIFOS INGESTION

Tamil Mullai[1], Adeline Marie Gnanasegaran[1]

[1]*Department of Emergency and Trauma, Hospital Seberang Jaya*

Introduction: Chlopyrifos, is a chlorinated organophosphate pesticide that accounts for major toxicity of pesticide mixture. Ingestion of this pesticide inhibits the activity of the enzyme acetylcholinesterase, leading to an excess of the neurotransmitter acetylcholine in the body. Acute flaccid paralysis is a rare clinical presentation among its diverse clinical presentations that occurs acutely in comparison to delayed neuropathy.

Case report: We report a 17 years old girl who presented with ingestion of chemicide 75+ about 5cc which contains an active component of chlorpyrifos (21.2% of organophosphate). Post ingestion patient had vomiting, diarrhea and chest tightness. Upon arrival to emergency department, gastric decontamination was done with activated charcoal. 12 hours post ingestion, she became drowsy, had difficulty ambulating with flaccid paralysis of all 4 limbs. Bilateral pupils were pinpoint, had excessive salivation, lacrimation, tachycardia and metabolic acidosis. Vital signs were BP 125/86, P 129, T 36.8 RR 20, SPO2 98% under room air. Serum cholinesterase level was low (36u/l).Plain computed tomography (CT) of brain resulted as no intracranial bleed. She was started with intravenous atropine bolus every 5 minutes until tracheobronchial secretion reduced and continued with atropine infusion. Then, was started on infusion pralidoxime over 24hours. Atropine infusion was off after 4hours due to persistent tachycardia. Symptoms improved after completion of pralidoxime, then was discharged well after 3 days of admission.

Discussion: Adverse effects of chlorpyrifos poisoning are acute cholinergic crisis, intermediate syndrome, and delayed neuropathy (OPIDN). OPIDN is an axonal polyneuropathy in the central and peripheral nervous systems that occurs several weeks after exposure. Presentation includes distal weakness and sensory loss, which may be progressive and severe. Our case shows that acute flaccid paralysis can also occur in the period of acute cholinergic crisis. Atropine and oximes have shown to have some effect on the improvement and preventing further progression of neuropathy.

Conclusion: Although OPIDN have shown to occur several weeks after exposure, high index of suspicion is required in individuals having early neuropathic symptoms. Close monitoring and examination are recommended in patients with acute neurotoxicity as the reaction depends on the chemical composition of organophosphate that can lead to early onset of neuropathy.

112

A MAGIC POTION TO CURE A POISONOUS KISS: A CASE OF UNIDENTIFIED ANIMAL BITE

Mohamad Juhairi Bin Jamaludin[1], Mohd Yassin Bin Abdul Razak[2], Nur Faradilla Binti Mohd Fishol[1]

[1]*Department of Emergency and Trauma, Hospital Kuala Nerang*

[2]*Department of Emergency and Trauma, Hospital Sultanah Bahiyah*

Introduction: Animal bites are common and account for at least 1% of Emergency Department visits in a hospital in Malaysia. Depending on the type of animal and the severity of the complications, animal bites usually require a high healthcare cost and budget. This case report is an example of the successful use of neuropolyvalent anti-venom in treating an unidentified animal bite with systemic neurotoxicity in the countryside of Kedah.

Case: This patient is a 12-year-old girl who was presented with unidentified animal bites with bite marks seen over her left lower back region while sleeping on the floor in her home. She also had symptoms of dizziness, vomiting, and diarrhea. Her vital signs were stable, and she was given IV Hydrocortisone and IV Piriton with the assumption of insect bites such as ants or centipede. However, she started developing another 2 episodes of vomiting, dysphagia, and bilateral eye ptosis during 2 hours of observation. In view of her having neurological toxicity symptoms, the case was discussed with the Emergency Physician Oncall, and he decided to give 10 vials of neuropolyvalent anti-venom. However, with the anti-venom infusion, the patient started to develop stridor with urticaria rashes over the chest, and the right facial region was seen. The anti-venom was withheld, and the patient was decided to be intubated for airway protection. The anti-venom was completed with slow infusion. She was admitted to the ICU and was extubated the next day. The patient was discharged well after observation in the ward for three days.

Discussion: As we all know, one of the most common cases of unidentified animal bites with neurotoxic effects is snake bites, especially in Malaysia. Overall, this case highlights the effectiveness of early administration of neuropolyvalent anti-venom in the case of unknown animal bites with systemic neurotoxicity for better prognosis and clinical outcomes.

Conclusion: This case report serves as evidence that early administration of neuropolyvalent in a case of systemic neurotoxicity in an unidentified animal bite will have favorable outcomes and a good prognosis.

113

THE MORE YOU HAVE, THE MORE YOU WILL NEED!

Ahmad Syahmi Ahmad Sabandi[1], Wan Nuralia Syamimie Wan Ahmad Shahmiruddin[1], Jien Wey Beh[1], Anas Amri Hashim[1]

[1]*Department of Emergency and Trauma, Hospital Sultan Abdul Halim*

Introduction: *Calloselasma rhodostoma* (CR), also known as Malayan pit viper is the commonest haematotoxic snake found in the northern region of Peninsular Malaysia. Envenomation from CR can lead to significant disability and death.

Case Description: An 85-year-old man with *diabetes mellitus* and hypertension presented 3 hours after being bitten by a snake while mowing lawn at his backyard. He was bitten twice, on both his upper limbs. Upon arrival, he was hemodynamically stable. Examination noted multiple actively bleeding puncture wounds on both his forearms and gross swelling with extensive ecchymoses from his hands up to middle forearm bilaterally. There were also haemorrhagic blisters on his fingers. Unfortunately, neither patient nor his family brought the snake along. Based on geolocation and clinical findings, the initial diagnosis was unidentified snakebite probably CR with local and systemic envenomation. This was later confirmed with the snake brought by his family members. A 20-minute whole-blood clotting test was done and resulted positive. Laboratory investigation showed anaemia (haemoglobin 6.5g/dL), coagulopathy (APTT >180 seconds, INR maximum), deranged renal function (urea 27mmol/L, creatinine 276umol/L) with metabolic acidosis. Due to the presence of both local and systemic envenomation, patient was given 3 vials of CR antivenom (CRAV) immediately. After completing the first dose of CRAV, patient's wounds continued bleeding profusely, and coagulopathy persisted. Thus, he was given another 3 vials of CRAV. He was managed in the ICU and made good recovery. However, patient underwent Ray amputation of the right middle finger due to gangrene.

Discussion: In CR envenomation, the main mechanism underlying the haematotoxic effects is consumptive coagulopathy by thrombin-like enzymes. The intensity of haematotoxicity is proportional to the number of bites sustained, thus increasing the need for more doses of CRAV. Recurrence of coagulopathy after an initial response to CRAV is common due to a reduced in circulating antivenin levels.

Conclusion: In patients with severe systemic envenomation, repeated doses of CRAV within 1-2 hours have shown to be beneficial in neutralising the haematotoxic effects of CR, thus improving patient's outcome.

Keywords: *Calloselasma rhodostoma*, systemic envenomation, haematotoxicity

114

TACKLING HYPERNATREMIC DEHYDRATION IN LITTLE ONES AT THE EMERGENCY DEPARTMENT

Nur Faradilla Mohd Fishol[1], Ahmad Ghaus Mohd Ghouse[1]

[1]*Department of Emergency and Trauma, Hospital Wanita dan Kanak-Kanak, Sabah*

Introduction: Hypernatremia is defined as serum sodium level more than 145 mmol/L. Hypernatremic dehydration is a serious condition in paediatric that late recognition and delay treatment would lead to high risk of mortality and central nervous system morbidity, like seizure, intracerebral haemorrhage and venous sinus thrombosis. The purpose of this case report is to create awareness among emergency doctor regarding the treatment strategy in managing hypernatremic dehydration in paediatric population in the emergency department (ED).

Case Description: We encountered a 3-months-old baby, brought to ED for diarrhoea and less active for two days. Examination revealed that the child was in shock, lethargic with severe dehydration. Blood gas shown metabolic acidosis with hypernatremia (serum sodium of 155 mmol/L). Fluid bolus of 20 ml/kg 0.9% saline was given followed by 10% fluid correction 0.9% saline over 48 hours with concurrent full maintenance fluid of 150cc/kg/day 0.45% saline with 5% dextrose. The child was then referred to paediatrics team for hospital admission.

Discussion: The treatment for hypernatremic dehydration is often underestimate due to lack of awareness of its treatment strategy and disease complication in the emergency department. Administering hypotonic fluid rapidly can cause significant changes in extracellular fluid osmolality and a shift in the water towards intracellular fluid, leading to cerebral edema and irreversible cellular damage. Most expert recommend a goal reduction rate of serum sodium level of 0.5 mmol/L per hour with correction over 48 hours, although no consensus treatment guideline existed. In a shock patient, repeated fluid bolus might dilute the serum sodium rapidly. Simultaneous administration of hypertonic saline needs to be considered to prevent such an acute drop in sodium. It is a great challenge to recognize which patient will benefit from this regimen, given the limited literature on the use of hypertonic saline during hypernatremia correction.

Conclusion: Emergency doctors must have a good understanding of the treatment approach for managing hypernatremic dehydration in paediatric population in ED, as any missteps in the initial treatment could result in significant morbidity and mortality.

Keywords: Dehydration, Hypernatremia, Paediatric

115

BENEATH THE SURFACE : THE STING OF STONE FISH

Nasrul Fadhli Kusdi[1], Mohamad Firdaus[1]

[1]*Department of Emergency and Trauma, Hospital Tuaran, Sabah*

Introduction: The state of Sabah is renowned for its stunning island and dive site. Local hospital frequently encounters marine-related injuries, such as envenomation from fish belonging to the Scorpaenidae and Synanceiidae family. Stone fish, also known as Synanceia, is one of the species of Synanceiidae family. The venom of the Synanceia fish can be lethal and cause various of systemic manifestations if left untreated. We hereby present a case of stonefish stung in Tuaran, one of the districts in Sabah.

Case report: 43 years old male was brought to Emergency Department (ED) with stone fish sting over his finger while net fishing. The patient experience swelling and pain with numbness radiating to his right arm. No other significant symptoms were observed. The patient was administered intramuscular.

Diclofenac 50 mg and intramuscular ATT 0.5 ml, there was no improvement in pain. Then the patient's affected finger was treated with heat by immersing it in slightly hot water at 39-45 degree Celsius. After immersing the affected finger for 1 hour, there was a significant improvement in pain.

The patient showed no signs or symptoms of systemic envenomation. Result of blood investigations yield unremarkable result. Following a observation period in emergency department, the patient was discharged with oral pain medication.

Discussion: The predominant symptoms induced by the venom of Synanceia fish is pain and various systemic manifestation such as chest pain, weakness, delirium, seizure, hypotension, arrhythmias have been reported. The venom of Synanceia fish are heat labile. The hot water immersion treatment is based on the instability of venom proteins to heat. Heat causes the denaturation of these proteins, rendering the venom inactive. Additionally, this treatment is believed to modulate pain receptors in the nervous system, providing relief from pain.

Conclusion: The application of heat treatment has proven to be affective in cases of marine Synanceia fish envenomation. Hence, this simple and cost-effective treatment methode should be considered for managing marine envenomation.

116

WATCHOUT! DON'T BE DECEIVED BY A GOOD FIRST IMPRESSION: A CASE OF SMALL PENETRATING NECK INJURY (PNI) WITH COMMON CAROTID ARTERY(CCA) CUT

Sopna Krishnasamy[1], Muhammad Shahrul Azizi Ghazali[1], Shamini Sangasamy[1]

[1]*Department of Emergency and Trauma, Sultan Idris Shah Hospital, Selangor*

Introduction: Vascular injuries are the leading cause of death in penetrating neck injuries (PNI), accounting for up to 40% of cases. Carotid artery injuries represent 45% of penetrating neck vascular traumas.

Case Description: A male foreign national was brought to the emergency department (ED) by ambulance following a suspected fall. Due to a language barrier, the exact mechanism of injury was unclear. The patient had a laceration wound in Zone II of the neck, measuring 2 cm x 1 cm and hemodynamically stable. The Ear, Nose, and Throat (ENT) team was consulted, and a flexible nasopharyngolaryngoscopy (FNPLS) showed no airway injury. This led to a computed tomography (CT) scan of the neck, which revealed a left common carotid artery (CCA) injury with pseudoaneurysm formation and active hemorrhage. The vascular team was consulted, and urgent neck exploration was planned. While awaiting the operating theater (OT) call in the ED, the patient experienced profuse bleeding from the wound site due to probing during assessment by multiple teams and mobilization for the CT scan. One-point compression was maintained until the patient reached the OT. Intraoperative findings included a deep laceration wound in Zone II, a clean cut at the left CCA, and a large surrounding hematoma. The patient was discharged after four days without neurological deficits.

Discussion: The index of suspicion for neck injury is influenced by the injury zone, with most Zone II injuries necessitating surgical intervention. Physical examination is highly sensitive for detecting vascular injuries and accurately identifies arterial injuries. In this case, the initial severity was masked by the absence of active bleeding. However, once profuse bleeding commences, supported by CT evidence, a prompt vascular team referral and urgent surgical exploration is critical to the patient's survival.

Conclusion: When managing a PNI patient with evidence of hard signs, it is crucial to be vigilant for vascular injuries. Minimizing wound exploration in the ED and reducing patient mobilization can prevent triggering bleeding. The primary goal is to mitigate the progression of vascular injury, decrease ischemic events, and improve neurological outcomes and survival rates.

Keywords: Penetrating neck injury, Common carotid Artery

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

117

DEADLY HEAT: CHOLINERGIC URTICARIA CAUSED BY SAUNA EXPOSURE

Lim Yee Fei[1], Mohammad Alzamani Idrose[1]

[1] *Department of Emergency and Trauma, Hospital Kuala Lumpur*

Introduction: Anaphylaxis is a severe, life-threatening allergic reaction that can progress rapidly. On the other hand, cholinergic urticaria also presents with similar symptoms. We present a case which presented at our centre with anaphylaxis symptoms but turns out to be cholinergic urticaria.

Case description: An 18 years old boy was brought in by father to Emergency and Trauma Department Hospital Kuala Lumpur (ETDHKL) complaining of difficulty in swallowing and talking, post exposure to sauna. After 30 minutes in the sauna, patient noticed rashes on the trunk and periorbital swelling. Prior visit to ETD, patient took antihistamine at home. On arrival to ETD, patient was afebrile with vital sign blood pressure 127/78mmhg, pulse rate 87/min, respiration rate 18/min, oxygen saturation 98 under room air. Patient was sent to red zone and treated with steroid as well as intramuscular adrenaline. The symptoms resolved after that and patient was admitted to the medical ward for observation and discharged well on the next day.

Discussion: Cholinergic urticaria is a body immune reaction towards increased body temperature due to exercise, hot shower, sauna, eating spicy foods as well as hot weather. Whereas anaphylaxis is an allergic reaction occurred due to the presence of allergens. Patients can present with similar symptoms in both cases. History taking is a crucial step in differentiating between cholinergic urticaria and anaphylaxis. Cholinergic urticaria is actually very common (1 in 5 people) have this at some point in their life. Nevertheless, there is not much awareness of this condition.

Conclusion: This case highlights the rare situation in which sauna could cause anaphylaxis symptoms like - cholinergic urticaria. This occurred in a patient that had no history of allergy in the past and in this case, with exposure of heat in a sauna. The management of such case is similar to anaphylaxis.

Keywords: Cholinergic urticaria, sauna, anaphylaxis

118

BLOOD ON THE CLOCK: ORCHESTRATING MIRACLES WITH LEVEL 1 RAPID INFUSER

Aaron Vinesh[1], Rathini Inthiran[1], Alzamani Mohammad Idrose[1]

[1]*Emergency & Trauma Department Hospital Kuala Lumpur*

Introduction: Level 1 Rapid Infuser is a specialised device designed to warm and rapidly deliver larger volumes of blood components such as packed red blood cells, plasma, and platelets typically in patients experiencing severe blood loss. We present our experience using this device to safely deliver large amounts of blood component in a timely manner in a rapidly exsanguinating trauma patient.

Case Description: A 45-year-old male motorcycle rider brought to emergency department with abdominal pain following high-speed motor vehicle collision with a divider. He was hypotensive (64/48 mmHg), Extended Focused Assessment with Sonography for Trauma (e-FAST) scan revealed free fluid in Morrison pouch. Patient was intubated to protect the airway. Safe' O blood was started immediately using Level 1 rapid infuser in view of haemodynamic instability. Massive Transfusion Protocol (MTP) was activated. A total of 22 units of packed red blood cells, 15 units of Fresh Frozen Plasma, 7 units of Platelets & 12 units of Cryoprecipitate were given. Double inotropes started concurrently to achieve Mean Arterial Pressure (MAP) target. Patient was pushed for Exploratory Laparotomy which revealed multiple tears at Transverse Mesentery Colon estimating 11 Liters of blood loss. The level 1 rapid infuser was also sent to OT with the trainee ED personnel to facilitate its use there as well. The Level 1 rapid infuser enabled stabilization of blood pressure leading to successful suturing of multiple tear bleedings and achieving haemostasis.

Discussion: In the case of trauma with massive haemorrhage, rapid blood transfusion can save lives. Having an MTP protocol is good but a rapid infusion of the blood products is essential for survival. Relying on manual transfusion method may not be sufficient and patient can deteriorate. Level 1 rapid infuser can facilitate rapid delivery of large volumes of blood products to patients experiencing significant blood loss during surgery; achieving hemodynamic stabilization and laying the foundation for definitive surgical intervention.

Conclusion: By following an established MTP and utilizing equipment like Level 1 rapid infuser during major trauma with massive bleeding can improve patient outcomes thus increase the likelihood of survival. Our experience shows the need of the machine in such situation.

Keywords: Level 1 Rapid transfuser, Massive Blood Transfusion

119

NEEDLING YOUR BREATH AWAY

AN ATYPICAL CASE OF ACUPUNCTURE-INDUCED PNEUMOTHORAX

Kiirthern Krishan Murthi[1], Darlene Flavius Ongkili[1], Lilyan Rosa Jimson[1], Arif Johari[1], Breithner G Johniu[1]

[1]*Department of Emergency and Trauma, Hospital Queen Elizabeth, Sabah*

Introduction: Pneumothorax is a common presentation in the emergency department with a plethora of possible etiologies. However, acupuncture-related is a rare cause, especially in our local setting.

Case Report: We report the case of a 52-year-old lady with a known case of uncorrected scoliosis presenting to our emergency department with an acute complain of shortness of breath. Significantly, we noted she had multiple visits to the acupuncturist over the past three days where needling and "gua sha" was done. On examination, she was tachypneic but hemodynamically stable with reduced air entry on the right side. Bedside ultrasound demonstrated absence of lungs sliding sign over the same side. Chest radiograph revealed a right pneumothorax. A 21Fr chest drain was inserted with instant respiratory relief. She was then admitted to the surgical ward for continuation of care. Her chest drain was removed on day four of admission after a repeated chest radiograph showed lung re-expansion. She was discharged on the same day with a clinic appointment, where she was subsequently discharged well from follow-up.

Discussion: Acupuncture, a form of traditional care medication where the skin is penetrated by fine needles is becoming increasingly popular as an alternative therapy to modern medicine. As a result, the World Health Organisation (WHO) has released a guideline on expected benchmarks for the practice of acupuncture, highlighting pneumothorax as a possible severe complication of therapy, besides organ, vascular and nerve injury. Nevertheless, as Stenger et al. described in their case-series, acupuncture- related pneumothorax is under-reported. High degree of suspicion and early recognition are required to avoid life-threatening cardiovascular compromise, especially with those presenting with chest pain or shortness of breath after undergoing acupuncture over the neck or chest. Chiu et al. stressed in their case report, associating chronic pulmonary diseases with higher risk of pneumothorax post acupuncture. Therefore, low threshold for imaging should be applied to this population cohort to enable potentially life-saving intervention.

Conclusion: Acupuncture-induced pneumothorax is an uncommon yet possibly fatal condition thus emergency physicians or residents should be cautious with this group to ensure early diagnosis and better patient outcome.

Keywords: acupuncture, pneumothorax

120

SAFETY AND EFFICACY OF NEW ORAL POTASSIUM BINDER IN MANAGEMENT OF ACUTE HYPERKALEMIA

Nurulasikin O.[1], Nurul Diyanah A.[1], Dur Atikah MH.[1], Nurul Sabila AS.[1], Amalina Syakirah M[1]. Ahmad Suhailan M.[1], Farina MS[1], Jeremy Quah WJ[2]

[1]*Emergency Department, Institut Jantung Negara, Kuala Lumpur, Malaysia*

[2]*Cardiology Department, Institut Jantung Negara, Kuala Lumpur, Malaysia*

Introduction: Institut Jantung Negara is a cardiovascular center in Kuala Lumpur. Emergency Department (ED) often manages patients with acute hyperkalemia due to use of cardiac related medication that commonly cause hyperkalaemia, including Angiotensin Converting Enzyme inhibitors, Angiotensin Receptor Blockers, Calcium Channel Blockers, Beta Blockers and Angiotensin Receptor Neprilysin Inhibitors. There is also a high rate of Chronic Kidney Disease (CKD) among cardiac patients which exacerbates hyperkalaemia. Intravenous Lytic Cocktail (Calcium Gluconate, Insulin and Dextrose) is common and preferred in treating patients with hyperkalaemia but may cause adverse events such as hypoglycaemia. Lokelma (Sodium Zirconium Cyclosilicate) is a new oral potassium binder for managing hyperkalemia.

Objective: We reviewed the utilization of Lokelma and its efficacy with the aim to improve management of hyperkalemia patients.

Methods: This retrospective observational study was carried out among IJN's patients with hyperkalemia between 1/2/024 to 31/5/2024. Patients were treated with Lytic Cocktail and given 10g of Lokelma. A repeat Potassium was done before discharge. Patients were discharged with Lokelma 10g 3 times a day for 2 days, then 10g daily for 2 weeks and given a follow up appointment. Data was analyzed for age, co-morbidities, baseline eGFR, ECG, medication, and potassium level pre and post Lokelma.

Result: A total of 30 patients were included in the study whereby 70% (n=21) were male and 30% (n=9) were female. 70% (n=21) were Malay, 17% (n=5) Indian and 10% (n=3) Chinese. Patient's age ranged from 42 to 98 years with 61-70 age range being the highest. 93% (n=28) patients had established CKD. 97% (n=29) were on medications that predisposed to hyperkalaemia. Pre-treatment potassium level ranged from 5.5 to 7.4 mmol/L. 4 patients had tall tented T waves on ECG while 1 patient had sinus bradycardia. Post treatment potassium ranged from 3.4 to 5.9 mmol/L. There were no immediate adverse events after initial dose of Lokelma. 8 patients came for follow up 2 weeks later and potassium ranged from 3.3 to 5.2 mmol/L.

Conclusion: Sodium Zirconium Cyclosilicate is safe for use in treatment of acute hyperkalaemia with low risk of adverse events and maintained normokalaemia after 2 weeks.

Keywords: Hyperkalaemia, Lokelma, Sodium Zirconium Cyclosilicate.

121

"HER FACE IS IMBALANCE: A CASE OF BELL PALSY IN CHILD"

Hui Ching Foo[1], Chong Hern Leong[1], Wen Tzein[1], Siew Eng Ng[1], Nor Khatijah Ahmad[1]

[1]*Emergency Trauma Department, Selayang Hospital, Malaysia*

Introduction: Bell's palsy (BP) is an acute, idiopathic paralysis of the seventh cranial nerve, likely caused by inflammation and swelling at the geniculate ganglion, leading to nerve compression, ischemia, or demyelination, often associated with viral infections.

Description And Outcome: A 1-year-old girl presented with sudden facial asymmetry following a week of fever and upper respiratory infections. Examination showed right-sided facial paralysis with loss of the right nasolabial fold and inability to close the right eye. She also had grade 2 tonsillitis, and right ear effusion. She was diagnosed with acute otitis media complicated by acute facial nerve palsy and bronchopneumonia. Treatment included corticosteroids and broad-spectrum antibiotics. The patient underwent a right myringotomy with grommet insertion and completed a 1-week antibiotic course. She showed significant improvement and was subsequently discharged.

Discussion: Bell's palsy (BP) is the most common cause of unilateral facial palsy, accounting for 60- 70% of cases, with an incidence of 20 to 30 cases per 100,000 people annually. Middle- aged individuals are more commonly affected, though children have an estimated incidence of 6.1 cases per 100,000 annually. BP is often linked to viruses such as Herpes simplex 1. About 70% of cases resolve spontaneously within three months without sequelae. BP presents with sudden unilateral facial weakness, inability to raise eyebrows, close the eyelid, or smile, often accompanied by decreased tear production, altered taste, and hyperacusis. Diagnosis is clinical, focusing on the exclusion of other causes like stroke, Ramsay-Hunt Syndrome, and Lyme disease. Treatment primarily involves corticosteroids, shown to significantly improve recovery, while antivirals offer no additional benefit. Eye care is crucial, including lubricating drops and eye protection. The prognosis is favorable, with 85% recovering within three weeks and 15% within three to six months. Persistent or recurrent cases necessitate further investigation. In children, treatment aims to ensure complete nerve function recovery and prevent sequelae, with surgical options considered in complicated cases.

Conclusion: Pediatric facial nerve palsy, frequently resulting from Bell's palsy, poses significant functional and aesthetic concerns. Thorough diagnostic workout and differential diagnosis are essential to determine the most appropriate treatment.

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

122

HANDSTAND MANEUVER FOR CARDIOVERSION IN PAEDIATRIC SUPRAVENTRICULAR TACHYCARDIA (SVT): A CASE REPORT

Sofea Azreen Mohd Nazri[1], Wan Nor Aina Nasibah[1], Zakiah Mohd Jamin @ Jamal[1]

[1]*Department of Pediatric Emergency Medicine, Hospital Tunku Azizah, Kuala Lumpur, Malaysia*

Introduction: Supraventricular Tachycardia (SVT) is the most common tachyarrhythmia in children with incidence rate 1 in 100 [1] . In infants, symptoms are usually nonspecific including poor feeding and irritability meanwhile in older children most common presentation is palpitation. In stable SVT , first line management would be vagal stimulation.We report a case of a 6-year-old boy presented with tachycardia reverted by handstand maneuver.

Case description: A 6-year-old boy with underlying narrow complex tachycardia on T Propranolol presented as less active for 1 day, with a history of missed medication and self heart rate monitoring at home showed 238 beats/minute. On assessment , airway patent and child not in shock .However, the heart rate on the cardiac monitor ranged between 240-255 beats /minute. ECG suggests narrow complex tachycardia.

Thus , child was asked to blow into a 10 ml syringe and passively raise his legs to 45 degrees , but the heart rate persisted . The child was then put on a handstand maneuver , heart rate came down to 89 in seconds. Child was transferred to general ward for observation.

Discussion: SVT is a rapid, paroxysmal regular tachyarrhythmia that commonly involves the atrioventricular (AV) conduction system and an accessory AV pathway.

Clinical presentation could widely vary from palpitation, chest pain, abdominal pain, pallor and sweating, syncope and heart failure.

Electrocardiogram (ECG) will show a narrow complex tachycardia at a rate >220 per minute for infants and >180 for children, the P wave is absent or abnormal and the R-R interval is not variable [3] According to the Pediatric Advanced Life Support (PALS) algorithm, in patients with hemodynamically stable, vagal maneuvers should be attempted first , these included ice immersion, carotid massage, and handstand maneuver.

Handstand is likely to cause vagal stimulation by transiently increasing thoracic pressure, stimulating baroreceptor activity in the aortic arch and carotid bodies and resulting parasympathetic tone. Based on study, the upside-down position terminated SVT in 67% of the study group versus 33% of the standard Valsalva maneuver.

Conclusion: In patients with SVT, handstand maneuver should be considered as a routine first treatment and can be taught to patients.

123

DEADLY TAP: A CASE OF FATAL PERICARDIAL DECOMPRESSION SYNDROME FOLLOWING PERICARDIOCENTESIS

Wan Nur Amalina Wan Hilmee[1], Muhammad Hanif Bin Ab Malek[1], Muhamad Na'im Bin Ab Razak [1]

[1] *Hospital Lahad Datu, Lahad Datu, Sabah, Malaysia*

Introduction: Pericardial Decompression Syndrome, PDS, is a rare and unfortunate event that causes paradoxical worsening of hemodynamic following successful drainage of cardiac tamponade. The exact mechanism that led to this condition is unknown but must be considered in a patient who deteriorates after a period of improvement following decompression of the tamponade. Based on limited data, it is potentially deadly, with a mortality rate of up to 30%.

Case Description: A 43-year-old Filipino lady with no known medical illness presented to our center with worsening shortness of breath after two weeks of upper respiratory tract infection. Upon arrival, she was alert and tachypnoeic but saturated well under room air, and she was tachycardic and normotensive. Bedside point of care ultrasound showed pericardial effusion of 2.8 cm with right atrial (RA) and right ventricle (RV) collapse but with hyperdynamic heart, minimal left pleural effusion with bilateral lungs A profile, and distended inferior vena cava. Pericardiocentesis was performed, and 150 cc of serous fluid was drained. Repeated echo showed improvement of RA, and RV collapsed, but there was global hypokinesia; hence, the patient was started on inotrope. Unfortunately, she further deteriorated after four hours post pericardiocentesis, requiring intubation and triple inotropes. She succumbed at our emergency department.

Discussion: PDS is a diagnosis of exclusion following deterioration of patient post pericardiocentesis. Exact mechanism is unknown and there is no clear evidence-based guidelines available to prevent PDS. Although, European Society of Cardiology 2004 guidelines recommend draining of less than 1L pericardial fluid at a time, case report show that it may rarely develop even after small amount of pericardial drainage. Supportive therapy is a key treatment for the treatment of PDS including intra-aortic balloon pump, inotropic support, and aggressive heart failure treatment. However, this may be challenging in a district hospital with resource-strain setting.

Conclusion: PDS should be considered in a patient who deteriorates following a successful decompression of cardiac tamponade. Currently, there are no proven methods to prevent the incidence. It is potentially deadly, and supportive treatments are the mainstay therapies.

Keywords: Cardiac tamponade, pericardiocentesis, Pericardial decompression syndrome.

124

BEYOND THE CULTURE: DIAGNOSING A DEVASTATING CASE OF CNS TUBERCULOSIS

Shiham Mohamud Fouzi[1], Amirudin Sanip[1]
1Department of Emergency Medicine, Hospital Canselor Tuanku Muhriz UKM, Kuala Lumpur, Malaysia

Introduction: Mycobacterium tuberculosis infection is widespread, but Central Nervous System (CNS) tuberculosis is a rare and could lead to severe complication. It often presents with diverse clinical features and can be difficult to diagnose due to potentially negative microbiological tests.

Case Description: A 19-year-old woman with no known medical illness presented with progressive back pain, followed by lower limb weakness, numbness, and needing assistance in walking. She denied chronic cough, night sweats, intermittent fever or constitutional symptoms. She received Bacillus Calmette–Guérin (BCG) vaccine and posed no risk factors for tuberculosis recently. Neurological examination revealed hyperreflexia and progressively reduced muscle power over bilateral lower limbs. Initial laboratory tests including infective markers, electrolytes as well as tumor markers were normal. Cerebrospinal fluid (CSF) analysis showed xanthochromia with elevated protein but negative for tuberculosis. Magnetic resonance imaging of the whole spine showed extensive spinal dural enhancement and computed tomography of the brain revealed lesions suggestive of tuberculous arachnoiditis, myelitis, and tuberculomas. Despite negative CSF cultures for tuberculosis, anti-tuberculous medications were initiated due to positive radiological findings. The case was complicated with hydrocephalus requiring ventriculoperitoneal shunt placement and steroids. Subsequently patient developed spontaneous partial thrombosis of left common iliac vein which requiring rivaroxaban and subcutaneous clexane which later inferior vena cava filter was inserted.

Discussion: This case highlights the challenging presentation of CNS tuberculosis in view of no risk factors for tuberculosis infection. Despite negative CSF cultures, clinical features and radiological findings were highly suggestive. Early diagnosis and treatment are crucial to prevent long-term complications.

Conclusion: CNS tuberculosis can present with a fulminant course and multisystem involvements. A high index of suspicion is necessary for diagnosis, even in the absence of positive microbiological confirmation. Early initiation of anti-tuberculous therapy and management of complications are essential for improving outcomes. This case emphasizes the importance of considering CNS tuberculosis in patients with atypical neurological presentations.

Keywords: tuberculosis, myelitis, central nervous system

125

CROCS FILES: MIRACULOUS ESCAPE, EVADES CROCODILE JAW IN UNFORTUNATE ENCOUNTER.

Wan Nur Amalina Wan Hilmee[1], Muhamad Na'im Bin Ab Razak [1]

[1] *Hospital Lahad Datu, Lahad Datu, Sabah, Malaysia*

Introduction: Human-crocodile conflicts are examples of human-wildlife crises that negatively affect humans. They have existed for ages and will continue to persist as humans continue to co-exist alongside the species. Within recent years, the number of crocodile attacks on humans in Sabah has risen significantly, with 28 attacks (11 fatal, 17 non-fatal) reported between 2000 and 2008. Our Lahad Datu district is known to be inhabited by notorious crocodiles that inflict injuries on victims.

Case Description: A 38-year-old male, an illegal immigrant, presented to our casualty following an unfortunate event in which he was riding a motorcycle and skidded into a nearby river in Felda Sahabat Lahad Datu, with half of his thigh sunk into the murky water. While trying to evacuate himself, he experiences a heavy biting sensation over his right leg and excruciating pain. It was then he realised that a crocodile bit him, and he immediately poked the crocodile's eye. He managed to roll himself to escape the beast and immediately ran away to seek local help. A layperson applied a tourniquet and immobilized the right lower limb, and the patient was subsequently sent to our department throughout a 2.5-hours journey. Our assessment demonstrated an open right tibia-fibula fractures with no vascular injury.

Discussion: *Crocodylus porosus* is the only species from the family of true crocodiles, under the order of crocodilia, that is known to inhabit Sabah estuaries and swim upstream to the freshwater river as well as associated wetlands. It is an opportunistic predator that is known to attack humans, causing disabling or life- threatening injuries either from the attack itself or drowning leading to various complications.

Conclusion: Effective first aid targeting bleeding control and urgent transfer to definitive care may improve the chance of survival following a crocodile attack. The survivors of crocodile bite attacks should be managed as per advanced trauma life support and advanced life support guidelines as they do not only sustain injuries from trauma but also from possibilities of drowning and hypothermia.

Keywords: Crocodile bites, *Crocodylus porosus*, torniquet.

126

AM I HAVING A STROKE ??

Mohamad Kamal Azam Bin Nor Azlan[1], Ida Zaliza Binti Zainol Abidin[1]

[1]*Emergency And Trauma Department ,Hospital Tuanku Fauziah, Kangar, Perlis, Malaysia*

Introduction: Brain stem glioma is very rare. The incidence of this disease is not known. In this case study we are going to discuss a 10 years old girl who was diagnosed with pontine glioma which is very aggressive and can cause death. Brain stem gliomas are present in 20% from all neoplasm.

Case Description: A 10 year old Chinese girl with no medical illness presented with left sided body weakness , facial asymmetry , slurred speech,drooling saliva and inability to walk. All these symptoms occurred 2 days earlier and had became worse.She didn't have any fever,fitting episode,headache or any recent trauma.Upon arrival at Emergency Department,she was alert and fully conscious. All the vital signs were normal.Dextrostix was 6.0 mmol/L. CNS examination revealed weak muscle powered 2/5 with hypertonia over left side of both upper and lower limbs. The right side upper and lower limbs were normal.Laboratory markers were normal too. CT scan showed presence of a hypodense lesion at pons which was consistent with pontine glioma.

Discussion: This patient presented with acute onset of left hemiparesis. The short presentation also was not accompanied with history of infection or trauma. The symptoms depend on where the tumor forms in the brain, the size of the tumor and whether it has spread throughout the brain stem, how fast the tumor grows and the child's age and stage of development. Symptoms appear rapidly. Most of the symptoms usually mimics symptoms of stroke such as limb weakness,facial asymmetry,drooling saliva & slurred speech. Pontine gliomas are difficult to treat and the survival rates are very poor. The treatment modalities too are still being researched. MRI helps in grading and deciding treatment modes.

Conclusion: Pontine glioma is a lethal brain cancer. It accounts 10% of all brain and spinal childhood tumours. Brainstem tumours in children have poor prognosis and are still intensely investigated.The symptoms occur rapidly and could mimics stroke The lack of familiarity as well as its rarity, results in delayed, and misdiagnosis.

Keywords: Stroke,Glioma,Weakness

127

SPORT MEDICINE: "UNFORTUNATE RUGBY PLAYER AFTER DEVASTATING TACKLE"

Fatihah binti Shafiee[1], Mohd Husnul Hadi bin Mohd Rodzi[1]
1Emergency Department, Hospital Tuanku Fauziah, Kangar, Perlis, Malaysia

Introduction: Due to the physical nature of rugby, players are susceptible to multiple injuries. The incidence of chest wall injuries and pneumothorax in rugby ranges from 4-5% and 1.5-3%, respectively.

Case Description: A 24-year-old male rugby player complained of severe back pain and breathlessness following a rugby tournament. He reported the injuries occurred after he attempted to tackle his opponent using his right shoulder. He was immediately transported to our Emergency Department by a paramedic team stationed at the field after assessment. Upon arrival, he exhibited signs of pain but remained vitally stable. Physical examination revealed bruises on the right posterior upper torso and shoulder along with positive tenderness in the right posterior chest wall. Other systemic examinations were unremarkable. Pain management was given before undergoing a Chest X-ray. The imaging revealed multiple right rib fractures; 5^{th} to 8^{th} rib with a pneumothorax. No signs of hemothorax or lung contusion were observed. With the patient's consent, a right thoracostomy tube was inserted under sedation and local anesthesia.

Discussion: In rugby, the most common injuries happen during a tackle, when the great forces are released when 1 player makes contact with an opponent. Rib fractures are typically caused by direct force contact resulting in immediate pain and localized tenderness as experienced by this patient. A simple pneumothorax is rarely life-threatening, but it can develop into a tension pneumothorax, which can be fatal. Tension pneumothorax happens when air accumulates in the pleural space leading to increased intrathoracic pressure which can impede venous return and decrease cardiac output. An urgent thoracic decompression is required to reduce pressure. In this case, the traumatic pneumothorax is related to an acceleration-deceleration injury or caused by a direct blow during tackling. Although sports- related chest trauma is infrequent, we should keep in mind the possibility of pneumothorax in athletes with chest trauma.

Conclusion: Having a basic understanding of the game, including potential injuries during the matches along with high clinical suspicion and a careful assessment following trauma life support protocols are crucial for prompt recognition and appropriate treatment with rapid intervention.

Keywords: rugby, multiple rib fractures, pneumothorax

128

ROLE OF POCUS IN EARLY DETECTION OF SPONTANEOUS ABDOMINAL WALL HEMATOMA

Muhammad Farhan Izani[1], Tengku Mohd Azimin[1], Razak Daud[1]

[1]*Emergency And Trauma Department, Hospital Raja Perempuan Zainab II, Kota Bharu, Kelantan, Malaysia*

Introduction: Acute abdominal pain is a common presentation in any casualty. One of the non-traumatic differentials is spontaneous abdominal wall hematoma, which may present with a painful abdominal wall lump. We are reporting a case of spontaneous abdominal wall hematoma following over-warfarinization, which was detected by our Point of Care Ultrasonography (POCUS) finding.

Case Presentation: A 57-year-old lady with underlying Hypertension, Hypothyroidism, and non-valvular Atrial Fibrillation (AF) on Warfarin treatment presented with spontaneous left lumbar pain for 2 days duration. On examination, the abdomen was soft, but there was presence of a localized tender abdominal wall lump over the left lumbar area. Bedside POCUS revealed a well-defined mixed echogenicity mass over the left lateral abdominal wall, and laboratory coagulation profile was prolonged. Subsequently, an urgent Computed Tomography (CT) confirmed the presence of a left lateral abdominal wall hematoma measuring about 11 x 7.5 x 15cm with features of active bleeding. The patient was then transfused with a total of 3 units of packed cells and 4 units of Fresh Frozen Plasma (FFP), and was treated conservatively.

Discussion: There are many predisposing factors for spontaneous abdominal wall hematoma such as coughing, heavy lifting, and in our case, it likely occurred due to over-warfarinization. The diagnosis can be very challenging as it can mimic other acute abdomen presentations such as acute appendicitis, acute cholecystitis, and many others. Abdominal wall hematoma can be rapidly identified using POCUS, with sensitivity up to 90%, especially when correlated with blood investigation results and physical examination findings. Hence, early arrangement for CT abdomen can be made immediately to assess for presence of active bleeding and early referral to primary team can be done, which will reduce ED length of stay. However, CT abdomen remains the gold standard for diagnosis and assessing the presence of active bleeding.

Conclusion: This case highlights the role of POCUS in making a quick and accurate diagnosis in patients presenting with acute abdomen. The role of POCUS in this case will definitely benefit patients by establishing an early diagnosis, guiding appropriate therapy and reducing ED admission stay.

Keywords: hematoma, POCUS, abdomen

129

UNMASKING THE CHAMELEON: A CASE SERIES ON ATYPICAL PRESENTATIONS OF AORTIC DISSECTION

Hani Yasmin Yahaya[1], Muhammad Nur Azmi Baharuddin[2]

[1]*Department of Emergency Medicine, Hospital Al-Sultan Abdullah Universiti Teknologi MARA (UiTM), Puncak Alam, Malaysia*

[2]*Department of Emergency Medicine, Faculty of Medicine, Universiti Teknologi MARA (UiTM), Sungai Buloh, Malaysia*

Introduction: Aortic dissection is associated with a high mortality rate. Its clinical presentations are diverse, which makes diagnosis and treatment challenging. We present 2 case reports highlighting the different presentations of aortic dissection in the emergency department (ED).

Case Report: The first case involved a 73-year-old asymptomatic who was referred to ED after an incidental finding of mediastinal mass on a chest radiograph as part of the pre- operative assessment for hernia repair. Diagnosis of Standford A aortic dissection was made following an urgent computed tomography (CT) angiogram. The second case presented a diagnostic dilemma, with symptoms overlapping between decompensated heart failure and aortic dissection. A 66-year-old man with underlying diabetes mellitus and hypertension presented with gradual onset of failure symptoms. There are positive findings of heart failure evidenced by the presence of bibasal crepitations and pedal edema on examination. Bedside echocardiography revealed a dilated aortic root. He was treated for congestive heart failure and was started with intravenous diuretics. An urgent CT angiogram revealed Standford A aortic dissection.

Discussion: Aortic dissection is a rare but potentially catastrophic entity characterized by a tear in the layers of aortic wall. The clinical manifestation varies and can mimic other conditions, making the process of diagnosis challenging. The symptoms vary widely depending on the location and extent of the tear, ranging from typical tearing type of chest or back pain to more atypical presentation such as dyspnea, syncope and neurological deficits. Hence resulting in diagnostic ambiguity and delays in appropriate management. A systematic review revealed factors leading to delayed diagnosis include the absence of typical features and concurrent conditions such as congestive heart failure and acute coronary syndrome. In addition, more accurate diagnosis is associated with more comprehensive history taking and prompt use of imaging.

Conclusion: These cases demonstrate varying presentations of aortic dissection in the ED. It is essential to recognize the atypical symptoms and maintain a high index of suspicion for aortic dissection. Prompt identification and accurate diagnosis play a significant role in positively impacting patient outcomes in aortic dissection.

Keyword: Aortic dissection, Atypical presentation

130

FATAL OUTBREAK: MALIGNANT PERTUSSIS STRIKES, HEALTH AUTHORITIES ON HIGH ALERT

Wan Nur Amalina Wan Hilmee[1], Muhamad Na'im Bin Ab Razak [1], Muis Takim[1]

[1] *Hospital Lahad Datu, Lahad Datu, Sabah, Malaysia*

Introduction: Pertussis is a vaccine-preventable disease caused by *Bordetella pertussis* bacteria, leading to highly contagious respiratory infections with systemic complications. Despite high global vaccine coverage, pertussis remains a significant epidemiological problem, with outbreaks occurring in developed and developing countries through a phenomenon called "pertussis resurgence." While patients with pertussis have good outcomes in developed countries, mortalities from malignant pertussis (MP) can be as high as 70%. Managing patients with MP in a resource-strained centre is even more challenging and associated with higher morbidity and mortalities. We share three cases of malignant pertussis from our centre.

Case Description

Case 1: A 6-month-old non-Malaysian boy, home-delivered and not immunised, presented to the emergency department with a history of upper respiratory tract infection for two days.

Case 2: An 11-month-old Malaysian boy, home-delivered and only immunised at birth, presented to the emergency department due to multiple episodes of fitting on the same day.

Case 3: An 11-month-old Malaysian boy, home-delivered and non-immunised, presented to the emergency department due to prolonged bouts of cough for one week associated with facial congestion and cyanosis.

All three patients are infants, non-immunised against pertussis, have leucocytosis with neutrophil predominant, develop fitting and worsening of respiratory distress. Given the poor prognosis, withdrawal of care was opted for by the parents.

Discussion: Fast leukocyte growth, leucocytosis with neutrophil predominant during acute pertussis infection, co- infection, female sex, birth weight <2500g, non-immunised child, cyanosis, hypoxia and shock are associated with higher mortality among patients with pertussis. While the outcome is good in developed countries, achieving the same standard in a resource-strained district hospital is not easy. It poses a dilemma for clinicians when prioritising care and at the same time, managing limited resources.

Conclusion: The recent Covid-19 pandemic, growing of vaccine hesitancy population and socio-demographic factors may lead to lower vaccination among children, requiring aggressive interventions. In a resource-strain centre, managing severe and malignant pertussis is complex and may be associated with higher morbidity and mortality. Community-based intervention and vaccination during outbreaks are critical to reducing infections and preventing patient overload.

Keywords: Pertussis resurgence, malignant pertussis, whooping cough.

131

THE MISSING HEARTBEAT

Dayana Aqilah Md Misron[1], Dr Azhana Apandi[1]

[1]*Emergency Department, Hospital Cyberjaya*

Introduction: Sick sinus syndrome (SSS) is characterized by abnormal sinus node function, leading to irregular conduction of electrical impulses. Clinical manifestations include dizziness, presyncope, or syncope, often accompanied by arrhythmias on ECG. Treatment typically involves permanent pacemaker insertion unless a reversible cause is identified.

Case Report: Mrs. A, a 70-year-old woman with underlying diabetes, hypertension, hyperlipidemia, and newly diagnosed atrial fibrillation, presented with recurrent episode of syncopal attacks. Upon arrival, she was stable with an irregularly irregular pulse and AF on ECG. During monitoring, she experienced episodes of syncope with sinus pauses and junctional bradycardia. Initial treatment included oxygen supplementation, IV Atropine, and subsequent transcutaneous pacing before transfer for permanent pacemaker implantation.

Discussion: Sick sinus syndrome is a disease that can affect women and men equally and it can occur at any age. But most of the cases affected people who aged over 70 years old,this is due to aging process tends to slow the heart rate and lower the function of SA node. Causes of sinus node dysfunction are generally categorized as intrinsic or extrinsic based on their effect on the SA node. The intrinsic causes originate from structural or functional changes within the SAN. The extrinsic causes are related to external factors causing abnormal conduction at the SAN. Clinical presentation of sick sinus syndrome is a result from the hypoperfusion of end organ and about 50% patients will have present with symptoms of the cerebral hypoperfusion such as syncope, presyncope, lightheadedness, and cerebraovascular accident (CVA). Other associated symptom such as chest pain, shortness of breath, palpitation and reduced effort tolerance.Our patient's history and presentation suggestive of sick sinus syndrome. Adding on ECG finding that showed sinus bradycardia, sinus pause arrest and brady-tachycardia syndrome.The definitive treatment for Sick sinus syndrome after correcting the reversible causes is a permanent pacemaker, which is recommended for symptomatic patients not in order to improve survival but rather to improve quality of life.

Conclusion: Patient with history of multiple episodes of syncopal attack should be investigated for causes. This is because syncopal attack of cardiac origin can lead to death especially in elderly. Early management with transcutaneous pacing can help to prevent further episodes of syncope. Patient with sick sinus syndrome required permanent pacemaker for definitive treatment as there are no medication available that can prevent episodes of syncope to occur.

Keywords: Sick sinus syndrome, syncope, pacemaker

132

PEDAL PUSHERS TO PULSE CRUSHERS: UNRAVELLING HANDLEBAR VASCULAR INJURY

Syed Abdul Kader Mohamed Salem

Emergency Department, Hospital Tengku Ampuan Rahimah Klang, Selangor, Malaysia

Vascular handlebar syndrome is a rare form of vascular trauma that is often missed or diagnosed late. The mechanism of injury results from the compression from the handlebar of two-wheeled vehicle onto the structures within the inguinal and groin area resulting in blunt trauma to the neurovascular structures. We present a patient with severe lower limb pain following a motor vehicle injury. The patient fell forward while riding, with the handle of the bike knocked on his left inguinal region that resulted in immediate bruise formation over the region. Examination showed that the patient was able to ambulate with an antalgic gait. He had a massive bruise over the inguinal region extending to mid-thigh. The active range of movement of hip joints was full. Vascular assessment revealed presence of femoral pulse however feeble popliteal and absent dorsalis pedis and posterior tibalis pulses. The doppler signals confirmed the assessment where there was biphasic signal of the popliteal artery and absent in the distal pulses. Trauma team was activated and patient was subjected for computed tomography angiography (CTA) of the lower limb. There was short arterial dissection with partial thrombosis of the left common femoral artery with left inguinal hematoma with probable slow bleeding from small distal vessels. The patient was started on tablet aspirin and admitted for observation. Lower limb doppler was conducted three times daily for five days. In view of no progression of acute limb ischemia, he was treated conservatively and discharged home with tablet aspirin for six weeks with an outpatient appointment. Incidence of common femoral vessel injury is rare in the absence of fractures. However, a direct blunt trauma when patient falling forward in the two-wheeled vehicle may cause common femoral vessel injury. This is in view of a relatively superficial location of the vessel in the femoral triangle. Hence, a thorough history taking on the mechanism of injury is vital in recognise the risk of vascular blunt trauma. In conclusion, a prompt diagnosis and examination should be augmented with doppler ultrasound and radiological angiography in highly suspected cases. Multidisciplinary approach involving the trauma team is beneficial to allow timely repair within six hours of injury.

133

FROM PLATTER TO PERIL : SAXITOXIN INDUCED PARALYTIC SHELLFISH POISONING DUE TO MUSSEL CONSUMPTION

Meera Chandrasekhar[1], Nur Fadzlina Abu Seman[1]

[1]*Emergency and Trauma Department, Hospital Kuala Lumpur, Malaysia*

Introduction: Paralytic shellfish poisoning (PSP) occurs due to consumption of saxitoxin contaminated shellfish which can lead to progressive muscle weakness and respiratory arrest[1]. Here we present such a case of saxitoxin induced PSP due to mussel consumption.

Case Description: 42-year-old Indonesian lady presented with generalised body weakness and numbness, with perioral numbness, breathing difficulty, abdominal discomfort and nausea. She had consumed more than 10 mussels 1 hour prior at a seafood feast. On examination, her respiratory rate was 20 breaths/min, saturating 99% under room air with bibasal crepitations. Her blood pressure was 150/90mmHg, Pulse: 78bpm. Power of both upper limbs was 3/5 while power of lower limbs was 1/5, with normal tone all 4 limbs. She had normal reflexes, no clonus and Babinski was negative. Her sensation was intact. Her ABG under room air- pH: 7.43, PO2:74, PCO2:35, HCO3:23.2, BE: 0.7. Patient was started on nasal prong oxygen 3L/min, pantoprazole and intravenous drips. Subsequently, she improved and was discharged in 3 days.

Discussion: Warm water in summer months favours proliferation of dinoflagellates of the algae *Alexandrium* species which produce saxitoxin and colour water causing "red tides" . These are eaten by mussels, which concentrate saxitoxin in their flesh. Saxitoxin causes neurotoxicity through blockade of sodium channels, preventing neural signal transmission, It is fast acting with symptoms developing within 30 minutes of consumption and death within 4 hours[3]. Neurological symptoms such as paraesthesia of the face and mouth, rapidly progressive weakness, gastrointestinal symptoms and hypertension are commonly seen. Most patients recover but some may need mechanical ventilation. Intravenous fluids facilitate toxin excretion and prognosis is good if patients survived for 24 hours, Saxitoxin levels can be measured from shellfish meat or patient's urine or serum. In North America, a cutoff of 80 μg saxitoxin equivalents per 100 g shellfish is set as safe for consumption.

Conclusion: PSP is preventable if a system is developed for regular monitoring of PSP toxin levels and this information is channelled properly from the authorities to public, especially target groups such as fishmongers during red tide seasons.

Keywords: paralytic shellfish poisoning, mussels, saxitoxin

134

LIVING 'TONY STARK': A CASE REPORT OF METALLIC FOREIGN BODY IN THE PERICARDIUM.

M Nasreen[1], KK Gan[1], NH Ahmad[2]

[1]*Emergency & Trauma Department, Hospital Sultanah Aminah Johor Bahru, Johor, Malaysia.*

[2]*Universiti Teknologi MARA, Selangor, Malaysia*

Introduction: Point of Care Ultrasonography(PoCUS) in Emergency and Trauma Department(ETD) provide an opportunity for early detection of foreign body in soft tissue. We are presenting a case of retained metallic foreign body which was readily revealed by PoCUS.

Case description: A 37-year-old foreign worker presented to ETD with chest pain 1 hour after pieces of iron flakes has penetrated into his left chest while working. Upon arrival, his vitals were stable except for severe left sided chest pain with pain score of 8/10. On inspection of the chest, there was a punctum wound over left sided chest with surrounding erythematous and tenderness. Air entry was equal and no muffled heart sound was heard. Electrocardiogram(ECG) showed multiple bizarre artefacts without any features of acute myocardial injury. Extended Focused Assessment of Sonography in Trauma(e- FAST) revealed a small hyperechoic linear structure with posterior acoustic shadowing and re- verberation artefact. The suspicion of metallic foreign body in the mediastinum was heighted by the chest radiography findings of a linear radiopaque object near the heart. The diagnosis was then confirmed by computed tomography(CT) scan of the chest which revealed a metallic foreign body located deep to intercostal muscle involving the pericardium and abutting the myocardium with small adjacent pericardial hematoma. Patient was subsequently discharged well after uneventful observation with a memo of metallic foreign body in his body.

Discussion: PoCUS by emergency physician has demonstrated a high sensitivity(90%) and specificity(70%) in identifying radiopaque and radiolucent foreign body with improved accuracy. Although CT scan is 15 times more sensitive at detecting foreign bodies than plain radiography, metal artefacts have been known to hinder detection of foreign bodies using this method. Benefits of USG include its lack of radiation exposure and the ability for it to be conducted at the bedside. Sensitivities of 95–100% and specificities of 89.5–100% have been reported in the use of USG to detect foreign bodies.

Conclusion: The imaging techniques used to detect any foreign bodies depends on the size, material properties and position of the object. Different foreign bodies demonstrate different physical properties when viewed with different imaging techniques. Together with plain radiography, PoCUS can detect most foreign bodies and CT will aid in confirming the final diagnosis.

Keywords: PoCUS, metallic foreign body, artefact

135

"THE STRAY BULLET THAT LED THE DOCTOR ASTRAY!": A CASE OF PENETRATING ABDOMINAL TRAUMA FROM UNSUSPECTED GUNSHOT INJURY.

Mohamed Hakimi Bin Abdul Kadir[1], Muhamad Na'im Bin Ab Razak [1,2], Azmi Bin Ahmad[1], Munawaruzzaman Bin Abdul Manan[1], Nur Aiza Binti Mohamed Salleh[1]

[1] *Hospital Queen Elizabeth 1, Kota Kinabalu, Sabah, Malaysia.*

[2] *Hospital Lahad Datu, Lahad Datu, Sabah, Malaysia.*

Introduction: Stray bullet injuries resulting from accidental firearm injury occurring outdoors by anonymous shooters are rare. However, they should be suspected in a patient who presented with sudden onset penetrating injuries with no apparent cause, as most of the victims may not even be aware that they have sustained gunshot injuries. While the injury may result from a violent act, it may be due to hunting, celebratory shooting, or accidental.

Case Description: A 20-year-old healthy lady was referred from a rural district hospital for an acute abdomen with suspected perforated viscous. The patient worked as a rubber tapper and was working in her rubber plantation away from the town. While turning and facing out the rubber tree, she felt something hit her pubic area, causing pain, and fell to the ground. She presented to the nearby emergency department, where her vital signs were normal, and regular intravenous Tramadol managed the pain. There was a puncture area on her clothes and a small, rounded wound at the pubic region, initially documented as an abrasion wound. Chest X-ray erect showed air under the diaphragm. Serial Focused Assessment with Sonography for Trauma (FAST) scan was positive for pelvic free fluid. She was transferred to our center coming morning. Subsequently, a diagnosis of penetrating abdominal trauma secondary to a gunshot injury was made, and the patient was sent to the operation theatre for exploratory laparotomy.

Discussion: Although gunshot usually produces a loud sound following the firing of ammunition, multiple factors may attenuate the sounds. Situational awareness among the victims might differ, causing them not to recognize the gunshot incident; hence, the stray bullet injuries were not initially suspected in this case. The severity of injuries following stray bullets depends on many factors, including the type of firearm, bullet caliber, bullet trajectory, and distance from the shooter.

Conclusion: Stray bullet injuries must be suspected following penetrating trauma of no apparent cause, even with the absence of a gunshot sound. Failure to do so may cause inadequate management, delay in transfer to definitive care, and increase morbidity and mortality.

Keywords: Penetrating abdominal trauma, stray bullet, gunshot.

136

"THE HIDDEN DANGER OF A NECK HEMATOMAS" : A CASE REPORT ON BLUNT CEREBROVASCULAR INJURY.

Mohamed Hakimi Bin Abdul Kadir[1], Sareth Raj Kesavaraj[1], Darlene Flavius Ongkili[1]

[1]*Hospital Queen Elizabeth, Kota Kinabalu, Sabah, Malaysia.*

Introduction: Blunt Cerebrovascular Injury (BCVI) is an often overlooked complication caused by a blunt force trauma to the carotid or vertebral arteries. Early detection remains challenging to the due subtlety of the initial symptoms. A high index of suspicion along with a screening tool is needed for prompt diagnosis using computed tomographic angiograph (CTA).

Case Description: A 28-year-old female was brought by the ambulance to a district hospital following a motor vehicle accident, exhibiting a small anterior neck hematoma and a Glasgow Coma Scale (GCS) of E1V1M1. She was intubated for airway protection and promptly transferred to a trauma center where CT Brain revealed no intracranial bleeding. The CTA of the Carotids however, showed a significant intraluminal stenosis (>75%) of the right common carotid artery, indicative of BCVI. Further MRI scans during inpatient admission showed a right common carotid artery dissection with Intimal flaps noted at the cranial and caudal edge of the thrombus confirming the diagnosis.

Discussion: BCVI remains underdiagnosed due to its nonspecific presentation and it can be masked by other more serious injuries in a polytrauma case. Incorporating a screening tool such as the Denver Criteria in the assessment of a trauma patient can improve early detection rates allowing for prompt management and mitigating the risk of severe complications such as an ischemic stroke and even death. Grading of the injury will also help guide the treatment direction for BCVI.

Conclusion: BCVI awareness in the emergency department is important in order for early detection and appropriate intervention. This case exemplifies the importance of having a high index of suspicion for diagnosis of BCVI. Screening and grading tool for BCVI should be applied in select trauma patients to improve patient outcome.

Keywords: Blunt Cerebrovascular Injury, Blunt Neck Trauma, Denver Criteria

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

137

CONDITION DISMISSED, CASE MISSED: LATE PRESENTATION OF OSTEOSARCOMA

Nur Fadzlina Abu Seman

Emergency and Trauma Department, Hospital Kuala Lumpur, Malaysia

Introduction: Osteosarcoma is a bone cancer that often affects male children[2,4] and easily missed in early disease phase. We highlight such case in which, the condition was missed. It occurred in a female, less common for gender.

Case description: A 10-year-old Orang Asli girl came in with 7 months of right arm pain, worsening for 1 month with limping and was brought to a nearest Health Clinic 7 months earlier for attention. She denies history of fall or trauma and was treated as musculoskeletal pain. However, symptoms did not resolve. Patient returned to clinic after 1 month, but was discharged with a musculoskeletal pain. Patient brought to our centre after 7 months with worsening pain and limb weakness. The X-ray showed osteolytic changes with fracture of right upper humerus bone. Patient referred to orthopaedics team and then oncology team for chemotherapy.

Discussion: Limping and bone pain presented in early phase of children may be mistaken for musculoskeletal pain. Frequent healthcare visits without fall or trauma and no response to medication may warrant of other differentials. X-ray should be taken for such patient and lytic lesions should prompt consideration of bone tumour and appropriate quick referral.

Osteosarcoma can start in any bone, primarily in a long bone. Patient age correlates with survival, with poorest outcomes in older patients[5]. Early detection and referrals for tumour staging, metastases presence, and early treatment initiation impact the outcome. Staging for primary bone sarcomas is done with combination of a Computed Tomography (CT) to assess for pulmonary metastases and Magnetic Resonance Imaging (MRI) for local staging[3]. Despite progress, patients need longer follow-up to monitor recovery and detect any recurrence or late effects of intense chemotherapy and radiotherapy[1].

Conclusion: This report highlights the need to consider this diagnosis in cases of prolonged or non-resolving of limb pain. Early recognition and treatment can improve patient outcomes. Doctors must not overlook this condition as late detection worsens the outcomes.

Keywords: Osteosarcoma, bone pain, x-ray

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

138

TENSION HYDROPNEUMOTHORAX AND PNEUMOMEDIASTINUM IN A BOERHAAVE SYNDROME

M. Izzat AH[1], Hamizah Kamaruddin[1], Muhammad Khidir Mohd Kamil[1]

[1]*Emergency and Trauma Department, Teluk Intan Hospital, Perak*

Introduction: Boerhaave syndrome is a rare life-threatening illness because of spontaneous transmural rupture of the esophagus. The typical Mackler's triad of symptoms rarely occurs and might be mistaken for other serious illnesses. As a result, the diagnosis is frequently delayed, increasing mortality risk. Tension hydropneumothorax is a rare phenomenon associated with Boerhaave syndrome that has only been reported in 12 cases in the literature.

Case description: A 59-year-old male presented to emergency department with acute onset of chest pain, diaphoresis, and one episode of hematemesis. On arrival, he was mildly hypoxic, tachycardic, with pain score of 8. There were crackles and markedly reduced air entry over left hemithorax. Electrocardiography demonstrated sinus tachycardia with poor R-wave progression. Chest X-ray revealed mediastinal widening and opacification of the left hemithorax with contralateral mediastinal shift. Chest tube was inserted and drained 350 ml of coffee-ground fluids with air. Chest computed tomography demonstrated a large left hydropneumothorax, pneumomediastinum, and a 0.2 cm of esophageal defect. Esophagogastroduodenoscopy demonstrated a tear at distal esophagus measuring 1 x 1.5 cm consistent with necrosis and perforation. Patient was subsequently referred for thoracotomy and immediate surgical repair.

Discussion: Mackler's triad, which consists of chest pain, vomiting, and subcutaneous emphysema, rarely occurs in Boerhaave syndrome. Tension hydropneumothorax is an extremely rare phenomenon and can be associated with Boerhaave syndrome, ruptured hydatic cyst, COVID-19 pneumonia, congenital diaphragmatic hernia, and Lemierre's syndrome. The presence of food particles, biliary contents with a pH < 6, and hyperamalysaemia in the pleural drainage can be suggestive of Boerhaave syndrome. Esophagograms or CT scans with water-soluble oral contrast are the gold standard for diagnosing esophageal perforation. Boerhaave syndrome requires aggressive surgical or endoscopic therapy to prevent complications such as bacterial mediastinitis, empyema, sepsis, multi-organ failure, and death.

Conclusion: Boerhaave syndrome should be suspected in a patient with tension hydropneumothorax, as timely diagnosis and surgical repair are crucial to prevent life-threatening complications.

Keywords: Boerhaave syndrome, tension hydropneumothorax, esophageal perforation

139

BOERHAAVE SYNDROME: A DANGEROUS CONDITION WITH COMMON SYMPTOMS

Muhammad Ashraf Bin Tamili[1], Nur Fadzlina Binti Abu Seman[1]

[1]*Emergency and Trauma Department, Hospital Tapah, Malaysia*

Introduction: Boerhaave syndrome, known as spontaneous esophageal rupture, is an uncommon medical condition[1]. This case report highlights an early presentation of Boerhaave syndrome with common symptoms which can gives other broad differentials.

Case description: 59 years old Chinese gentleman with no known co-morbid presented to our centre with sudden onset chest pain associated with vomiting, shortness of breath and diaphoresis. Clinically, patient alert and appears tachypnoeic with desaturation on room air. There was left lower zone crepitation and tenderness over epigastric region. In emergency department, his plain chest radiograph shows widened mediastinum with left lung field haziness initially suspected of aortic dissection. Subsequently, Computed Tomography Angiography (CTA), Contrast Enhanced Computed Tomography (CECT) Thorax and Abdomen was done and features highly suggestive of Boerhaave syndrome with left tension hydropneumothorax, thus chest tube was inserted. Esophagogastroduodenoscopy (OGDS) demonstrated perforated distal oesophagus. Patient started on antibiotic and planned for emergency left thoracotomy.

Discussion: Boerhaave Syndrome, is caused by a sudden increase in the intraluminal pressure due to vomiting. It is a relatively rare pathology and occurs approximately 3.1 per 1000,000 per year, Mackler's triad is the classic presentation of Boerhaave syndrome consisting of chest pain, vomiting, and subcutaneous emphysema. Although it is only observed in certain cases, diagnosis of cardiogenic origin can overshadow it. Classic presentation in older age is rare. In patient with hydropneumothorax; vomiting, chest pain and dyspnea are the most frequent symptoms. Pleural effusions may form as a result of the extravasation of stomach contents and increased intraluminal pressure and oesophageal rupture commonly presents at left sided effusion. When hydropneumothorax appears in radiographic studies, it is important to think about spontaneous oesophageal rupture, which requires surgical or endoscopic therapy. Early diagnosis is important and prompt treatment initiation can lead to better outcomes, which improve overall quality of life; while delaying it can increase mortality rate.

Conclusion: Boerhaave syndrome is not common, but it can be life-threatening and can be mistaken for other conditions. Therefore, patient's outcome can be improved by prompt diagnosis and emergency treatment, which is crucial in preventing mortality.

Keywords: "Boerhaave syndrome, esophageal rupture, hydropneumothorax

140

MANAGING SUPRAVENTRICULAR TACHYCARDIA WITH WOLFF-PARKINSON-WHITE SYNDROME IN PREGNANCY: A CASE REPORT AND CLINICAL INSIGHT

Ahmad Azfar Bin Azwan[1], Kevin Wong Chuing Shen[1], Nur Diyanah Binti Mohamed Fauzi[1], Ahmad Ridzuan Bin Mohd Ali[1], Norhaya Binti Abdullah[1]

[1] *Emergency and Trauma Department, Hospital Pakar Sultanah Fatimah, Muar, Malaysia*

Introduction: Pre-excitation syndrome in pregnant patients is rarely reported in Malaysia. Without proper management, it can lead to life-threatening arrhythmia which may be harmful and detrimental to both the mother and the foetus. We report a case of a pregnant woman with Wolff-Parkinson-White (WPW) syndrome presented to our centre with supraventricular tachycardia (SVT).

Case Report: A 35-year-old female at 25 weeks of pregnancy, with underlying WPW syndrome, presented to the emergency department with sudden onset of palpitation and dyspnoea for one day. Her electrocardiogram (ECG) showed regular wide complex tachycardia (WCT) with a heart rate of 200 bpm. Carotid massage was performed but the cardiac monitor showed persistent tachyarrhythmia. Valsalva manoeuvre was attempted and the patient reverted to sinus rhythm. Delta waves were seen on the repeated ECG. She was admitted for observation before being transferred to a cardiac centre. The electrophysiological study revealed the presence of a right lateral accessory pathway. Radiofrequency ablation (RFA) with zero fluoroscopy was performed as she had multiple admissions for maternal tachycardia. The procedure was successful, as evidenced by the absence of delta waves on the ECG after the procedure. She was discharged well the next day.

Discussion: Physiological and hormonal changes during pregnancy predispose patients with pre-excitation syndrome to recurrent paroxysmal tachyarrhythmias. SVT can occur in patients with pre-excitation syndrome due to either orthodromic or antidromic atrioventricular re-entry tachycardia (AVRT). Our patient had antidromic AVRT as her ECG showed regular WCT. If left untreated, it may lead to cardiac problems and obstetric and foetal complications. A systemic review demonstrated that pregnant patients with pre-excitation syndrome had a higher rate of caesarean section. Most cardiologists will suggest RFA in these patients after delivery due to the risk of foetal exposure to ionizing radiation. However, with the radiation-reduction technique, RFA can be done during second trimester of pregnancy onwards, if patients have a high risk of tachyarrhythmia.

Conclusion: Pre-excitation syndrome may result in life-threatening tachyarrhythmia during pregnancy and delivery. Early detection will benefit the patient greatly, with RFA being the choice of treatment especially if the patient wishes to have another child in the future

Keywords: Pre-excitation syndrome, pregnancy, supraventricular tachycardia.

141

A TOXIC HEART: ACUTE CORONARY SYNDROME INDUCED BY METHAMPHETAMINE

Izzah Nadzrina Aimienur Suhaimi[1], Aina Yasmin Hajaludin[1], Alzamani Mohammad Idrose[2]

[1] *Emergency Department, Hospital Kuala Lumpur*

Introduction: Amphetamine-type stimulants are sympathomimetics; they increase the neurotransmission of chemicals in the Autonomic Nervous System (ANS). The drug could induce arrythmias, palpitations, chest pain and even cardiac arrest. We present a case where a patient presented with symptoms of a heart attack, which turned out to be induced by Methamphetamine.

Case Description: A 42-year-old gentleman with an underlying of Hypertension has been having frequent visits to the emergency department for the same complaints of chest pain associated with palpitations and left upper limb numbness. Electrocardiograph (ECG) showed sinus rhythm with no acute ischemic changes, which was his baseline ECG. A provisional diagnosis of Acute Coronary Syndrome (ACS) was made, and the patient was given Tab. Aspirin 300mg and Tab. Plavix 300mg STAT, which temporarily relieved the symptoms. Upon further history taking, patient admitted to being a chronic Methamphetamine chaser. He claimed the symptoms usually occur after taking such stimulants. A urine toxicology test was done, and he was positive for Methamphetamine. He was given adequate hydration, and his symptoms were observed for 12 hours, aligned with the half-life of Methamphetamines. His Troponin-T results at 0 and 1-hour were 16 and 9 respectively, which were similar to his previous baseline Troponins. Upon completion of his 12-hours observation, patient was well and had no more chest pain. He was then allowed discharge with an outpatient referral for further cardiac workup.

Discussion: Acute Coronary Syndrome in a patient consuming Methamphetamine poses a dilemma in terms of the actual cause of symptoms. Methamphetamine could lead to presentation of chest pain typical of ACS. This is likely due to the accentuation of the ANS. Patient may only have vasospasms, but coronary artery disease could not be ruled out unless an angiogram is performed. Such patients should be counselled to stop taking the drug and undergo a stress test.

Conclusion: In patients presenting with ACS, Methamphetamine as the causal agent should be considered. When in doubt, patients should be treated as per ACS protocol. Subsequent investigations such as the stress test and angiogram could be arranged for appropriate management.

Keywords: Methamphetamine, chest pain

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

142

DELAYED BY BEER; LATE LINE-CROSSERS ON THE RUMACK-MATHHEW NOMOGRAM

Izzah Nadzrina Aimienur Suhaimi[1], Alzamani Mohammad Idrose[1]

[1]*Emergency Department, Hospital Kuala Lumpur*

Introduction: Acetaminophen overdose can cause mild to severe hepatotoxicity, leading to acute liver failure and death, despite antidote availability. The Rumack-Matthew Nomogram predicts hepatotoxicity risk after acute acetaminophen overdose. Patients with low-risk concentrations at 4 hours may still be at risk, especially if co-ingestants affecting gastrointestinal motility are involved. We present a case in which a patient took beer along with a toxic dose of acetaminophen.

Case Description: A 37-year-old alcoholic (60 kilogram) presented to us after deliberate ingestion of 20 tablets of 500mg immediate-release Panadol (10g) with 3 cans of beer. At 5 hours post-ingestion his Acetaminophen level was 357.3 µmol/L which was below the nomogram line. His serum Alanine Transaminase (ALT) and Aspartate Transaminase (AST) were 44 U/L and 72 U/L respectively, and N-Acetylcysteine (NAC) was not commenced. Repeated concentration sampling after 14 hours returned a value above the treatment line at 575.9 µmol/L with AST and ALT being 1264 U/L and 55 U/L respectively. NAC commenced at this point. The patient went on to develop acute hepatic failure with a peak ALT of 4936 U/L and AST of 8804 U/L. This later progressed to hepatic encephalopathy, and he was intubated. He eventually required two full cycles of NAC administration and treated symptomatically. Liver transplant was also considered but was deemed unsuitable. Eventually his liver enzymes improved, and later extubated. The patient was clinically well and discharged with a follow-up with a hepatologist.

Discussion: Rare cases of hepatotoxicity have been reported despite an initial acetaminophen concentration below the nomogram line. There might be a delay to complete absorption in alcoholics or those that takes their overdose with an anticholinergic or opioids. If the initial level is not above the nomogram line at the 4-hour mark, then an 8 hour and 12-hour level should be drawn to be sure.

Conclusion: The managing team needs to be cautious in alcoholics with acetaminophen overdose as co- ingestion of alcohol may delay the acetaminophen ingestion, giving false interpretation of toxicity. Repeated levels should be performed for such patients so that NAC can be started in a timely manner.

Keywords: Acetaminophen, beer, N-Acetylcysteine

143

DEPRESSING JERKS: BUPROPION OVERDOSE CAUSING STATUS EPILEPTICUS

Izzah Nadzrina Aimienur Suhaimi[1], Aina Yasmin Hajaludin[1], Alzamani Mohammad Idrose[1]

[1] *Emergency Department, Hospital Kuala Lumpur*

Introduction: Bupropion is an atypical antidepressant used in managing depression. Its primary mechanism of action is by blocking dopamine and norepinephrine reuptake. In toxic doses, patients may present with seizures that occur much later than the ingested time. We present a case of Bupropion overdose that came to us with status epilepticus.

Case Description: A 45-year-old gentleman with an underlying of Depression on Tab Bupropion 150mg daily presented to us after being found unconscious with suspicion of intentional ingestion of Bupropion. Empty strips were found, estimated about 6g of Bupropion (40 tablets) and 0.12g of Zolpidem (12 tablets). Upon arrival he appeared drowsy but arousable. He denied any focal complaints. Initial laboratory data was unremarkable. Electrocardiography (ECG) revealed sinus rhythm at 95 beats/minute with no prolonged QTc interval. Toxicology screen for illicit drugs, salicylate and acetaminophen were all below detectable levels. Beyond 18 hours post ingestion patient had 5 witnessed generalized tonic-clonic seizures aborted with Intravenous (IV) Valium and was intubated for cerebral protection. There were no subsequent fitting episodes post intubation. A computerized tomography (CT) scan of the brain was performed, and results were unremarkable. Blood parameters were clear apart from mild transaminitis. Management comprised continuation of mechanical ventilation, IV Thiamine 200mg twice daily and IV Valium per needed. The patient was admitted to the high dependency ward (HDW) for further management.

Discussion: Bupropion is known to cause seizures following overdose occurring in about 15% of exposure and less than 5% incident of status epilepticus. Cardiac arrythmias such as QTc prolongation were also reported. Symptom onset is usually within 4-6 hours though severe toxicity may be delayed up to 18-24H. They usually resolve within 18 hours in mild cases and up to 48 hours in severe cases. It is normally managed supportively; and with antiepileptic therapy if seizure is present.

Conclusion: Bupropion-overdose patients need to be monitored closely with extended observation. Our patient manifested seizures after ingesting a toxic dose of Bupropion 18 hours later. The managing team need to avoid discharging such patients early and an observation period of 48 hours is reasonable.

Keywords: Bupropion, seizures, status epilepticus

144

HIDDEN DANGER: THE SILENT THREAT OF PARACETAMOL POISONING IN CHRONIC ALCOHOLICS

Wan Hamdi[1], Muhammad Aidil Idham[1], Mohamad Iqhbal[1]

[1]*Department Of Emergency Medicine, Hospital Al-Sultan Abdullah, Puncak Alam, Selangor, Malaysia*

Introduction: Paracetamol (acetaminophen) is a widely used over-the-counter medication for pain relief and fever reduction. Although generally safe at the recommended doses, an overdose can lead to severe liver damage or even death. Chronic alcoholics are at a heightened risk of paracetamol poisoning due to several physiological and metabolic factors.

Case Report: A 53-year-old man, a regular alcohol consumer for 20 years with no known chronic liver disease, presented with sudden onset of shortness of breath. No other complaints. He had a history of toothache three days prior and was prescribed a regular paracetamol dose, which he took as directed. On presentation, he was alert but speaking in words. Vital signs showed normal temperature and blood pressure, but he was tachycardic and tachypneic with a respiratory rate of 40. Lung auscultation was clear, and there was no bipedal oedema or stigmata of chronic liver disease. His abdomen showed hepatomegaly (four fingerbreadths), non-tender, and non-guarding. A bedside scan showed minimal free fluid in the hepatorenal region, with normal liver echogenicity. Due to ambiguous clinical features, a Paracetamol TDM level was taken, resulting in 46 microgram/mL. Liver function tests were severely deranged: aspartate transaminase was 6239, and alanine transaminase was 2796. Abdominal CT showed no bowel ischaemia but an enlarged liver with no lesions. The patient was diagnosed with acute decompensated liver failure complicated by severe metabolic acidosis and hyperlactatemia secondary to paracetamol poisoning. Despite being intubated and started on intravenous N-acetylcysteine, his condition deteriorated, and he succumbed to death after 3 days in the ward.

Discussion: Chronic alcoholics are at a significant risk for paracetamol poisoning due to altered drug metabolism and liver dysfunction. Early diagnosis and prompt treatment are crucial to prevent severe liver damage and to improve outcomes. Education and preventive strategies are essential to mitigate the risks associated with paracetamol use in this vulnerable population.

Conclusion: Think of a few differentials for shortness of breath, especially in special populations. In our case, it was due to paracetamol poisoning. In conclusion, an important reminder that we learned from this case is to maintain a high index of suspicion.

Keyword: Paracetamol poisoning

145

"FROM UNCONSCIOUSNESS TO RECOVERY: A CASE OF HEAT STROKE"

Hui Ching Foo[1], Wen Tzein[1], Siew Eng Ng[1], Nor Khatijah Ahmad[1]

[1]*Emergency Trauma Department, Selayang Hospital, Malaysia*

Introduction: Heat-related illness, a medical emergency, can lead to up to 70% mortality in heat stroke cases but near 100% survival with prompt treatment. In Malaysia, the incidence of heat stroke is increasing due to rising temperatures and high humidity, with significant cases reported during heatwaves and extreme weather events.

Description And Outcome: A 29-year-old male with no known comorbidities was found unconscious after marching for over 12 hours. In the ED, he was hypotensive, tachycardic, and had a core temperature of 40°C with a GCS of E1V2M1. Diagnosed with heat stroke, he received rapid external cooling and IV fluids. Intubation was required due to airway protection and restlessness subsequently. Blood tests showed acute kidney injury, transaminitis, and rhabdomyolysis. Admitted to the ICU for close monitoring and continued IV fluids, he was later extubated. After a 5-day hospital stay, his clinical condition and blood parameters improved, and he was discharged.

Discussion: Heat stroke is defined by a core temperature over 40.5°C and central nervous system (CNS) dysfunction. It occurs when thermoregulatory responses fail due to extreme temperatures, physical exertion, or physiological limitations, frequently affecting children, the elderly, and chronically ill individuals. Factors like chronic dehydration, medications, and heat shock protein deficiencies increase susceptibility. The workup focuses on detecting organ damage and excluding other causes of hyperthermia and CNS dysfunction. Treatment involves fluid resuscitation and cooling techniques to reduce temperature to 38°C, including removing clothing, spraying with cool water, applying ice packs, and using mist fans or evaporative methods. Seizures and shivering are managed with benzodiazepines and paralytics if intubated. Monitoring complications like pulmonary edema and hypothermia is critical, with potential risks including cerebral edema, coagulopathy, liver and renal dysfunction, rhabdomyolysis, and electrolyte imbalances. Invasive cooling methods and cold water IV infusion are not recommended due to complication risks. Public health measures are essential, such as monitoring environmental conditions, promoting hydration, educating the public and high-risk groups, facilitating acclimatization, implementing paced work schedules, and educating caregivers about heat-related illnesses.

Conclusion: Heat stroke, a severe heat-related illness, diagnosed clinically, requires prompt treatment with rapid cooling and fluid resuscitation to prevent complications.

146

"HEY , WHAT A PERVERTED JOKE ! " : A CASE REPORT OF TRANSANAL BAROTRAUMA

Nur Nadhihah Mohd Nasir[1], Ahmad Bukhari Muhammad Nor[1], Sharifah Nor Izyan Syed Hasan[1], Nurul Amirah Othman[1], Zatul Rathiah Sulong@Abdul Razak[1], Hafidahwati Hamad @ Ahmad[1]
1Hospital Sultanah Nur Zahirah, Terengganu, Malaysia

Introduction: In this era of urbanisation, the usage of high pressure air compressor in cleaning factory product has been widely used. Unfortunately, the misusage of these machines have lead to various kind of injuries such as transanal barotrauma.

Case Report: A 20-year-old Bangladeshi gentleman, a factory worker , went to the emergency department with severe abdominal pain and abdominal distension. Five hours earlier, his friend played a prank by pointing a high pressure air compressor at the patient's buttocks, which was used to clean the factory product. Subsequently he developed immediate severe abdominal pain and distension. On arrival, his blood pressure was 133/87 mmHg, and his pulse rate slightly tachycardia. The abdomen was markedly distended with board-like rigidity upon examination. The digital rectal examination showed no remarkable findings. An abdominal radiography revealed a gross pneumoperitoneum. He was immediately sent for emergency laparotomy. Upon exploration, revealed a perforation of sigmoid colon measuring 1x1 cm and multiple jagged tears in the rectosigmoid measuring 3x3 cm. The patient underwent resection of the sigmoid and a primary anastomosis. He was discharged well after fifth postoperative day.

Discussion: In general, transanal barotrauma is not unusual however colorectal injuries due to high pressure air compressor are extremely rare and most of them required surgical intervention. It has been estimated that the pressure of 0.27 kg/cm2 can rupture the serosa and muscle of the intestinal wall. In the industrial fields, high pressure air compressor of more than 10kg/cm2 is broadly used. Hence, this highly pressure has risk to cause the intestinal perforation if it is being introduced into the anus although it is just a joke as in this case report. The rectosigmoid region is the most vulnerable, with injuries commonly reported in the rectosigmoid junction, sigmoid colon, and sigmoid-descending junction.

Conclusion: Colorectal barotrauma due to compressed air may happen due to intentional misuse or accidental injury. Therefore, it is important to educate people about the proper use of such machines to prevent these types of accidents, since most cases are accidental and result from lack of awareness.

Keywords: Air compressor , Transanal barotrauma

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

147

WHEN BREATH BECOMES AIR: AN UNFORTUNATE CASE OF A BRAINSTEM TUMOUR WITH CONSCIOUS CENTRAL NEUROGENIC HYPERVENTILATION

Ooi Tze Siang[1], Ng Jen Siang[1], Alzamani Mohammad Idrose[1]

[1]*Emergency Department, Hospital Kuala Lumpur, Wilayah Persekutuan Kuala Lumpur, Malaysia*

Introduction: Cardiorespiratory causes of dyspnoea are commonly encountered in emergency department (ED), however recognising central causes of tachypnoea can be challenging.

Case Description: A 31-year-old gentleman presented with breathlessness for the past 1 month. Clinically patient was tachypnoeic with irregular, deep breathing, with a normal lung findings and oxygen saturation. Arterial blood gas showed respiratory alkalosis with no hypoxemia. Upon further history, he had history of double vision 4 months earlier and subsequently underwent magnetic resonance imaging (MRI) which reported a brainstem lesion likely high- grade glioma. His tachypnoea persisted despite being sedated and was eventually intubated in view of anticipated clinical deterioration. During admission, repeated MRI brain showed diffuse expansile lesion of midbrain and pons with worsening extension to hypothalamic region and left cerebellar with mass effect and mild hydrocephalus. He was treated with intravenous dexamethasone and was extubated with improving tachypnoea. Biopsy was not done in view of deep-seated lesion; thus, a presumptive diagnosis of high-grade pontine glioma was made. He was discharged with oral prednisolone and was later started on radiotherapy.

Discussions: Tachypnoea without hypoxemia should raise suspicion towards non-cardiorespiratory causes of tachypnoea. Recognising breathing patterns may help in differentiating them. Hyperventilation describes an abnormal increase in breathing rate and depth, leading to hypocapnia. Central neurogenic hyperventilation (CNH) is hyperventilation that persists during sleep, low arterial $PaCO_2$, high arterial PaO_2, and high arterial pH in the absence of drug or metabolic causes with scarce literature[2]. CNH caused by central nervous system (CNS) neoplasm are majority lymphoma (45%) and gliomas (39%) involving the pons and the medulla have consistently been described. Mechanism of infiltrative pontine lesions causing CNH is poorly understood but plausible theories are due to stimulation of intrinsic respiratory control centres. CNH can be aborted by definitive treatment of the underlying neoplasm. Steroids, opioids and sedatives are shown to have variable outcomes.

Conclusions: Clinicians must have high index of suspicion of alternative diagnoses in tachypnoea with normal lung findings and saturation, including neurological pathology. Recognising breathing pattern may aid in diagnosis of undifferentiated tachypnoea.

Keywords: Central Neurogenic Hyperventilation, Pontine Glioma

148

MASQUERADES OF THE INSIDIOUS CEREBRAL VENOUS THROMBOSIS: A CASE SERIES

Ooi Tze Siang[1], Ng Jen Siang[1], Alzamani Mohammad Idrose[1]

[1]*Emergency Department, Hospital Kuala Lumpur, Wilayah Persekutuan Kuala Lumpur, Malaysia*

Introduction: Cerebral venous thrombosis (CVT) is a form of venous stroke which can present with diverse clinical manifestation contributing to its high rate of misdiagnosis.

Case 1: 35-years-old man, presented with headache and dizziness for 4 days with persistent vomiting more than 10 episodes today. Examinations revealed slow mentation, positive left sided cerebellar signs. Computed Tomography (CT) Brain showed hyperdense lesion over occipital region and was treated as occipital and tentorial subdural haemorrhage. Computed Tomography Arterial (CTA) Brain revealed extensive cerebral venous sinus and cortical vein thrombosis with venous infarct. Patient was started on subcutaneous Enoxaparin. He eventually deteriorated in the ward and repeated CT showed worsening infarct with midline shift. Right decompression craniectomy was done but he eventually succumbed to the complications of the disease.

Case 2: 43-years-old Somalian lady with underlying hypertension presented with one month history of persistent headache over occipital region with vomiting 6 episodes for 2 days. GCS on arrival was 14/15 with left sided hyperreflexia and clonus. CT Brain showed Right temporo-occipital intraparenchymal haemorrhage. CTA showed extensive venous thrombosis with haemorrhagic transformation. Prophylactic phenytoin was started with subcutaneous Enoxaparin. Neurosurgical team decided for conservative management and patient was subsequently discharged with long term anticoagulant.

Discussion: CVT is the presence of blood clot within the dural venous sinuses and the cerebral veins. Most common presenting complaint is headache (90%). Other signs and symptoms include visual disturbances, seizures and focal neurological deficits. Risk factors may include younger women on oral contraception, pregnancy, postpartum, acquired thrombophilia. CT venography and magnetic resonance imaging (MRI) are gold standard imaging for diagnosing CVT, but may not be readily available in emergency setting. In a non-contrast CT, look for direct signs like direct visualization of thrombus (dense vessel sign) and serpiginous hyperdensity within a vein (string sign). Indirect signs like haemorrhagic infarction, cerebral oedema and hypodensity not conforming to typical wedge-shaped infarction and not limited to specific arterial territories.

Conclusion: Headache with warning signs requires further neuroimaging and early recognition of CVT from non-contrast CT in emergency department is crucial in initiating appropriate treatment.

Keywords: Cerebral Venous Thrombosis

149

NOT ALL WEAKNESS IS STROKE: ACUTE TRAUMATIC CENTRAL CORD SYNDROME AS A STROKE MIMIC

Ooi Tze Siang[1], Ng Jen Siang[1], Alzamani Mohammad Idrose[1], Faizal Manan[2]

[1] *Emergency Department, Hospital Kuala Lumpur*

[2] *Orthopaedics and Traumatology Department, Hospital Kuala Lumpur*

Introduction: Acute weakness is the most common presentation in neurological emergencies. History of trauma prior to the onset of weakness is important to differentiate the underlying pathology and subsequent management.

Case Description: A 50-years-old gentleman presented to emergency department post slipped and fall on supine position with complaints of bilateral upper limb and lower limb weakness. Initial examination reveals bilateral upper limbs power (3/5 strength), lower limbs: right (2/5), left (3/5) and subsequently regained strength to (4/5) both sides. Stroke protocol was activated but subsequently deactivated by neuromedical team due to history of trauma. Computed Tomography (CT) brain and cervical reported to have no intracranial bleed nor spinal fracture. He was admitted for Magnetic resonance imaging (MRI) cervical which revealed focal spinal oedema at level of C3/C4 with cervical spondylosis with posterior disc bulge and ossification of posterior longitudinal ligament (OPLL) causing spinal canal stenosis. Cervical collar was kept and started on oral Dexamethasone. He showed clinical improvement and was subsequently able to return to his baseline functional level.

Discussion: Spinal cord lesion is one of the lesser-known stroke mimics. Acute Traumatic Central cord syndrome (ATCCS) is a form of incomplete spinal cord injury (SCI). Frequently upper extremity strength is more affected compare to lower extremity[1]. Most of ATCCS results from hyperextension injury in a background pre-existing canal stenosis. A nationwide survey in Japan revealed that SCI is most prevalent among patients in their 70s, with cervical SCI (CSCI) without bone injury accounted for 70.7% of all CSCI cases resulting from minimal trauma[2]. Pre-existing factors like OPLL and stenosis has been found to be significantly higher in CSCI without bone injury that those with bone injury[3]. Management should begin at site of accident by proper triage and stabilizing neck with hard cervical orthosis. The presence of instability and deteriorating neurology have been absolute indications for surgery. Use of steroids remains controversial.

Conclusion: History of trauma prior to symptoms is crucial. Elderly patients with bilaterally neurological deficit even after a minor fall should raise suspicion of SCI despite a normal CT report.

Keywords: Spinal Cord Injury, Stroke Mimic

150

A TALE OF TWO THROMBI; A CASE OF CARDIOCEREBRAL INFARCTION

Siti Hajar Riduan[1], Lim Wen Tzien[1], Muhammad Hadri Abdul Majid[1]

[1]*Emergency and Trauma Department Selayang Hospital, Selangor, Malaysia*

Introduction: Acute myocardial infarction (AMI) along with acute ischemic stroke (AIS) require prompt and meticulous treatment to prevent severe outcomes. Emergency department (ED) Selayang Hospital had received a case whereby a young gentleman came in with presentation of stroke but later on developed AMI that lead patient to become unstable and asystole.

Case Description: A 33yo gentleman with underlying hypertension presented with sudden onset of left sided body weakness and slurred speech which occurred in the morning. Upon arrival to ED 30 minutes later, his GCS is full with signs of facial asymmetry, loss of nasolabial fold, reduced muscle strength over left side with power of 4/5 and absent of pharyngeal reflex. His BP is 183/125mmHg with the first ECG showed sinus rhythm. He underwent plain CT Brain which reported as multifocal infracts of varying ages. Subsequently after 2 hours he became not responsive and pulseless hence CPR was conducted for 7 cycles in which he regained ROSC. Repeated ECG showed ST elevation over lead V2-V6 with reciprocal changes. Thereafter, patient required double inotropic support and had another 15 cycles of CPR. Urgent cardiologist referral was made to Serdang Hospital and he was successfully transferred there via STEMI network and urgent PCI was done revealed acute total occlusion (ATO) to left anterior descending (LAD) artery which underwent thrombo-aspiration and able to establish flow. Patient however developed hypoxic ischemic encephalopathy (HIE) on account of experiencing two episodes of CPR; his family opted for discharge at own risk after almost 1 month of admission.

Discussion: Cardiocerebral infraction (CCI) is a term used in concomitant AIS and AMI. It can be divided into synchronous (simultaneous) and metachronous (one after the other); in which our patient developed. As patient had sudden onset of pulselessness, it caused a halt in determining the next treatment step as repeated CT brain is needed to rule out brain haemorrhage. Providentially, his transfer to Serdang Hospital was successful and he's able to undergo urgent PCI.

Conclusion: The patients presented with CCI might lead to predicament on whether to reperfuse the brain or heart first. Due to its rarity, treatment options are highly individualized.

Keywords: Myocardial infarction, ischemic stroke, cardiocerebral infarction

151

TRANSIENT STEMI: A STROKE OF LUCK OR A HIDDEN DANGER?

Siti Hajar Riduan[1], Ian Tey Zhe Yuan[1], Ng Siew Eng[1]

[1]*Emergency and Trauma Department Selayang Hospital, Selangor, Malaysia*

Introduction: In contemporary practice, ACS treatment involves immediate angiography for STEMI and delayed angiography for non-STEMI. However, this poses a dilemma for the 6% with "transient STEMI," where symptoms resolve before angiography.

Case Description: A 68-year-old heavy smoker with no known comorbidities presented with 3 hours of back pain, dyspnoea, and diaphoresis without exertion. Upon pre-hospital arrival, he was hypotensive (99/75mmHg), with a 12-leads ECG showing ST elevation in II, III, aVF, and ST depression in I, aVL, V1-V3. Three hours later in Emergency Department, there was resolving ST elevation over inferior leads and new ST elevation in R4-R6 (1.5mm) were noted. After few minutes of rest, subsequent ECG showed spontaneous reperfusion, resolving symptoms without thrombolysis. Troponin I level at 3 hours post-symptom onset was 21. Following that, coronary angiogram revealed 40-50% RCA occlusion, manageable with medical therapy.

Discussion: Transient MI underscores the significance of timely intervention. While patients experiencing transient STEMI may seem to fare better than those with persistent STEMI, caution is warranted. Studies like TRANSIENT suggest no difference in outcomes between immediate and delayed angiography yet concerns arise regarding delayed intervention. Trends toward larger infarct size and higher rates of major adverse cardiovascular events (MACE) in delayed angiography groups signal potential harm. Pitfalls in managing transient STEMI include incomplete symptom resolution, identification of transient STEMI but ongoing occlusion, and the possibility of re-occlusion post-reperfusion. Persistent ischemic symptoms necessitate immediate angiography, regardless of transient ST elevation. Similarly, transient STEMI but ongoing occlusion cases require prompt reperfusion, given their association with higher mortality. Additionally, close monitoring post-reperfusion is vital to detect signs of re- occlusion, emphasizing the dynamic nature of transient STEMI management. Early recognition and intervention remain paramount to optimize patient outcomes and mitigate risks associated with transient myocardial infarction.

Conclusion: This case highlights the complexity of managing transient STEMI, emphasizing the importance of timely intervention and close monitoring to optimize patient outcomes. Early recognition and prompt reperfusion remain crucial in mitigating risks and improving prognosis in transient myocardial infarction.

Keywords: Transient myocardial infarction

152

SPONTANEOUS MASSIVE HEMOPNEUMOTHORAX: A RARE CAUSE OF ACUTE DYSPNEA AND BACK PAIN IN A YOUNG PATIENT

Tan Hong Yee[1], Muhamad Na'im Bin Ab Razak [1,2], Nur Zaim Bin Sidik Ahmad[1], Nur Aiza Binti Mohamed Salleh[1], Rozaimie Cariaga[1]

[1] *Hospital Queen Elizabeth 1, Kota Kinabalu, Sabah, Malaysia.*

[2] *Hospital Lahad Datu, Lahad Datu, Sabah, Malaysia.*

Introduction: Spontaneous Hemopneumothorax (SHP) is a rare clinical entity but potentially life-threatening event following the tearing of a vessel in a patient with spontaneous pneumothorax due to various aetiology. The clinical presentation is variable but may lead to rapid progression of chest pain, dyspnoea, hemodynamic instability, and hypovolemic shock.

Case Description: A 22-year-old, healthy gentleman presented to our Emergency Department with unprovoked, sudden onset tearing back pain followed by dyspnea that gradually worsened within 12 hours. Upon examination, he appeared septic but hemodynamically stable. He was tachypneic with a respiratory rate of 30 breaths per minute and an oxygen saturation of 90% under room air and, therefore, put on high flow nasal cannula. His chest examination revealed reduced breath sounds over the left hemithorax with no stony dullness or hyperresonance upon percussion. Chest X-ray (CXR) showed left-sided hydropneumothorax. Bedside ultrasound revealed massive left pleural effusion of mixed echogenicity and absence of lung sliding sign. A diagnostic thoracentesis was performed, which drained fresh blood and therefore chest tube was not inserted. Computed tomography angiography (CTA) of the thorax demonstrates venous bleeding within the left upper lung lobe and gross left hemopneumothorax.

Discussion: SHP complicates 1-12% of patients who present with spontaneous pneumothorax and mostly occurs in the young male population. Diagnostic thoracentesis is helpful in narrowing the diagnosis. Treatment should be aimed at improving the hemodynamics, relieving the obstruction, and hemorrhage control. Insertion of chest tube may be required in rapidly deteriorating patients but may disrupt the clotting process at the torn vessel. Hence, early surgical intervention with either thoracotomy or video-assisted thoracic surgery (VATS) should be performed. Conservative treatment may be considered in selected and stable patients.

Conclusion: SHP should be suspected in patients with hydropneumothorax who presented with acute onset unprovoked back pain and dyspnea. A diagnostic thoracentesis may be considered prior to chest tube insertion as the patient may warrant urgent CTA of the thorax and early referral to the cardiothoracic team for surgical intervention.

Keywords: Spontaneous hemopneumothorax, spontaneous pneumothorax, massive hemothorax.

153

THE CHALLENGE OF MANAGING MULTIDRUG TOXICITY IN GERIATRIC POPULATION: A CASE REPORT

Nur Afiqah Kamsani[1], Ahmad Zakimi Abdullah[2], Rashdan Rahmat[2]

[1]*Hospital Canselor Tuanku Muhriz, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia*

[2]*Hospital Sultan Ismail, Johor, Malaysia*

Introduction: Geriatric populations are rising around the globe. They are vulnerable for risk of toxicity following polypharmacy ingestion due to preexisting morbidity such as dementia, cognitive impairment, delirium, and depression. We present a case of unintentional multidrug toxicity following amlodipine, bisoprolol, apixaban and metformin ingestion in elderly and its challenge.

Case Presentation: 83-years-old gentleman with history of diabetes mellitus, hypertension, atrial fibrillation, and major neurocognitive disorder presented with body weakness and vomiting. He stays alone for two days and feel lethargy, hence took large amount of medication with a perception it will help him better. He was found with missing of 22 packets of his medication. He ingested 22 Tablet of Amlodipine 10mg (220mg), 22 Tablet Bisoprolol 5mg (110mg), 22 Tablet Apixaban 5mg (110mg) and 22 Tablet Metformin 500mg (11gram).

Upon arrival he was lethargy, hypotensive and bradycardic. His blood result notable for lactate acidosis, hyperkalemia, and acute kidney injury with prolonged coagulation profile. He was started on noradrenaline infusion and received intravenous (IV) lipid emulsion 20% followed by infusion. However, he develops acute pulmonary edema which required diuretics with a brief episode of seizure without sequalae. He was given IV glucagon and high insulin therapy infusion with closed monitoring. Cocktail regime was given for hyperkalemia and fresh frozen plasma transfusion done to correct his coagulopathy. However, his condition and kidney function deteriorated despite on treatment hence counselled for hemodialysis. Due to patient multiple comorbidity and older age, his family opted not for active resuscitation hence succumbed to his illness after four days of admission.

Discussion: Stabilizing airway, breathing and circulation is important in any resuscitation with early initiation of specific treatment. In this case, IV glucagon, IV Calcium gluconate and high dose insulin plays a role in treatment. Hemodialysis is needed in renal excreted medication as he may be refractory to pharmacologic therapy. However, patient age and multidrug ingestion contribute to complexity in management.

Conclusion: Early recognition of sign and symptom with supportive and specific treatment and multidisciplinary approach are needed to improve patient outcomes especially in vulnerable age group such as geriatrics population.

Keywords: Toxicity , geriatrics

154

IT LEAKS,BUT I'M INNOCENT : UNKNOWN CAUSE OF PRIMARY SPONTANEOUS PNEUMOTHORAX (PSP)

Nur Wadihah Azizan

Hospital Kuala Lumpur, Kuala Lumpur, Malaysia

Introduction: Spontaneous pneumothorax occurs when there is air collection in pleural space. Primary spontaneous pneumothorax is when the caused is mostly idiopathic. It occurs in patient with no underlying lungs disease and not by trauma.

Case description: A 28 years old gentleman with no known underlying medical illness and non smoker presented with sudden onset of shortness of breath with right pleuritic chest pain for past 2 days. Symptoms occurred while at rest and there was no history of recent trauma. He also has no symptoms of upper respiratory tract infection and was previously well. On examination, he was mildly tachypneic with RR 24, able to talk in full sentences and vital signs was stable with SPO2 maintained above 95% under room air. On auscultation, there was reduced breath sound on right side with hyperresonance on percussion. CXR shows right sided pneumothorax. He was put on oxygen and chest tube was inserted. CT Thorax done shown no bullae or significant abnormalities. He was admitted to medical ward and subsequently discharge well.

Discussion: There are few classifications of pneumothorax. Spontaneous pneumothorax can be classified by primary or secondary caused. Secondary pneumothorax usually happens in the presence of existing lung pathology such as tuberculosis. While primary pneumothorax occurs without any apparent caused and predominantly occurs in young, tall and thin males. The management of PSP is still the same as other pneumothorax which is chest tube drainage and treat the underlying pathology. CT Thorax should be done to look for the mechanism that leads to leakage in pleural space.

Conclusion: Most PSP is caused by spontaneous ruptured of bullae. However, in some patient like in this case, no bullae or abnormality detected in CT scan. Regardless, oxygen supplement and chest tube drainage are still the 1st line treatment in pneumothorax patient.

Keywords: Primary, pneumothorax, idiopathic

155

I'M NOT ALL FAT! I TAKE STEROID: HYPERCORTISOLISM SECONDARY TO EXOGENOUS STEROIDS

Nur Wadihah Azizan

Hospital Kuala Lumpur, Kuala Lumpur, Malaysia

Introduction: Cortisol is a steroid hormone that is produced and released by adrenal glands. It is essential to regulate stress response. However, higher than normal level of cortisol can cause harmful effects. We present a case of hypercortisolism due to chronic consumption of steroids-containing supplement.

Case description: A 40 years old gentleman with young hypertension presented with increasing body weight, facial swelling, reduced effort tolerance for the past 1 month. He gained more than 7kg in a month. He also developed shortness of breath and orthopnea. At presentation, he had mild upper respiratory tract infection symptoms since 3 days earlier. He admitted of consuming traditional medication bought online for 1 year. Upon examination, patient was obese with BMI of 50 with respiratory rate of 26, had moon face feature, buffalo hump and purple striae over lower abdomen and thigh. Chest X-ray showed cardiomegaly with consolidation over right lower zone. There was no evidence of pulmonary embolism on CTPA. His am cortisol level was 128mcg/dL (raised). Provisional diagnosis of community acquired pneumonia and hypercortisolism secondary to exogenous steroid were made. He was treated with antibiotics and started on iv hydrocortisone. He was admitted to medical ward and subsequently discharged well with low dose of hydrocortisone and followed up under endocrine clinic.

Discussion: Hypercortisolism can be endogenous or exogenous in origin. There are product supplements that contain steroids but not known to patients. Upon feeling 'stronger', consumers tend to purchase more and be affected exogenously. Proper history taking and being perceptive of symptoms and sign of steroids effect are essential for diagnosis. The diagnosis is confirmed by biochemical test such as cortisol level in this case. The first line of treatment is low dose of hydrocortisone. Patient should be monitored for the complications as well.

Conclusion: In this case, patient mainly presented with obesity. Doctors managing such case need to take careful history and look for sign and symptoms of hypercortisolism so that treatment can be started early to prevent long term complications. The public need to be aware that supplement products may contain steroids that could harm them.

Keywords: Hypercorticolism, Obesity

156

EXPLORING THE ROLE OF SUGAR IN RELIEVING RECTAL PROLAPSE: A CASE OF COMPLETE RECTAL PROLAPSE

Nur Fadzlina Binti Abu Seman

Emergency & Trauma Department, Hospital Kuala Lumpur, Malaysia

Introduction: Rectal prolapse is a relatively common, usually self-limiting condition in children, with peak incidence is between 1 and 3 years of age[1,3] Prolapse can be either partial or complete. In this case, we highlight a case of complete rectal prolapse in a male infant.

Case description: 10 months old Chinese boy with no known medical illness, born term and thriving up to age, brought in to our centre for medical attention with swelling per Ano early in the morning. It is also associated with minimal bleeding and inconsolable crying. Granule sugar was sprinkled over the swelling, followed by gauze soaked with diluted sugar and dextrose 50% (D50%) solution. Patient was subsequently referred to Paediatrics Surgery team and reduced, which later discharged well.

Discussion: Application of sugar or sucrose has benefit of reducing oedema where it soaked up moisture; as high solute concentration of sugar water helps in pulling water from swollen tissues. It will later facilitate and assist in reducing the rectal prolapse [1,3.] Surgical intervention is required when such intervention fails.

Conclusion: Long segment intussusception must be excluded. Occasionally, the intussusception passes quite far distally and can be palpated on rectal examination (5%)[3]. Prolapse of the intussusceptum out the rectum may be a grave sign and can be mistaken for a rectal prolapse.

Dextrose 50% (D50%) solution or granule sugar could help to shrink the prolapse. Complications may arise if no inventions being done as it may cause ulceration, bleeding, strangulation, ischemia, and gangrene.

Keywords: Prolapse, sugar, dextrose solution

157

BENDING OVER BACKWARDS WITH OPISTHOTONUS: A CASE OF GENERALISED TETANUS

Joseph John Malayapillay Gerald[1], Lim Wen Tzien[1], Ian Tey Zhe Yuan[1]

[1]*Emergency department, Selayang Hospital, Malaysia*

Introduction: Tetanus is a dramatic yet rare disease in Malaysia, with an incidence of 0.09 per 100,000 population. Approximately 80% of tetanus cases present with generalized tetanus, characterized by intense muscular contractions and distinctive features such as opisthotonus and risus sardonicus. Complications can include cardiovascular or respiratory collapse, rhabdomyolysis, and aspiration pneumonia.

Case Description: A 20-year-old male presented to the emergency department with a two-week history of a foot injury from hitting a metal object, followed by generalized muscular spasms and a five-day history of difficulty opening his mouth. On examination, he was alert but had trismus and a wound on the third toe of his right foot. He received intramuscular human tetanus immunoglobulin (TIG), intravenous benzodiazepines, and antibiotics. Blood tests revealed multiple organ damage and rhabdomyolysis. The patient was intubated in the operating theatre for airway protection and admitted to the intensive care unit (ICU) with a guarded prognosis.

Discussion: Tetanus management is primarily supportive, aiming to control symptoms and eradicate residual spores. Initial treatment should include a dose of TIG between 3000U to 6000U, along with antibiotics and wound debridement to limit toxin production, and intravenous benzodiazepines to control spasms. Severe cases necessitate ICU admission with sedation and mechanical ventilation. Although tracheostomies are preferred over endotracheal tubes to reduce the risk of laryngospasm, they pose increased morbidity and potential long-term sequelae. Crucially, tetanus prevention through vaccination with the tetanus toxoid is the cornerstone of managing this disease.

Conclusion: Generalized tetanus carries high morbidity and mortality. This case underscores the critical importance of primary prevention through vaccination and outlines the essential management strategies for such patients. Highlighting this case aims to reinforce best practices in emergency and intensive care settings.

Keywords: Tetanus, opisthotonus, emergency

158

DECOMPRESSION SICKNESS: IS IT REALLY DECOMPRESSION SICKNESS OR JUST A HEARING LOSS?

Siti Sarah Mohd Zahidi[1], Jessica Goon Mei Cheng[2]

[1]*Hospital Queen Elizabeth 1, Kota Kinabalu, Sabah, Malaysia.*

[2]*Hospital University Malaysia Sabah, Sabah, Malaysia*

Introduction: Decompression sickness (DCS) is a potentially life-threatening condition that occurs when dissolved gases (commonly nitrogen) form bubbles in the bloodstream and tissues. This condition affects individuals who experience rapid ambient pressure changes. Here, we present an uncommon presentation of Type II DCS.

Case description: 56 years old male, non-smoker with no known medical illness presented to Emergency Department with sudden onset of bilateral hearing loss associated with vertigo and tinnitus for the past 2 days. He had history of scuba diving prior to symptoms. He is a regular diver and went for his first dive of the day with a maximum depth of 14.9metres for 53 minutes and performed safety stop prior to resurfacing. Patient came after 3 days as symptoms did not improve with medications prescribed by previous hospital visits. On examination, vital signs were normal with no skin lesions seen, no joint pain, saturating well under room air. Physical examination was unremarkable, central nervous system examination and otoscope examination were normal. There were no cerebellar signs and Rhomberg test was negative. He was diagnosed with Type II DCS and referred to Hospital Angkatan Tentera Wilayah Kota Kinabalu for hyperbaric oxygen therapy (HBOT). He underwent HBOT 3 times prior to discharge.

Discussion: DCS Type I commonly presents with skin, musculoskeletal or lymphatic involvement whereas Type II symptoms are mainly neurological. Type II DCS can be challenging to diagnose as it may present with inner ear barotrauma. Patient came with otologic presentation causing misdiagnosis during the first few healthcare visits, hence treatment was delayed. After receiving treatment Table 6 of HBOT, vertigo and tinnitus symptoms resolved. Unfortunately, there were residual of hearing loss. Audiometry test showed significant hearing loss at 2000hz.

Conclusion: Hearing loss as a solitary manifestation of Type II DCS may be difficult to distinguish from middle ear and inner ear barotrauma. Therefore, DCS is a clinical diagnosis and requires a high index of suspicion by clinicians so that prognosis can be greatly improved with early diagnosis and HBOT in these patients.

Keywords: Type II Decompression sickness, inner ear barotrauma, hyperbaric oxygen therapy

159

WHISPERS OF DANGER: UNRAVELING THE ENIGMATIC CLUES OF ANAPHYLAXIS

Nuha Zhafirah Nor A'zam[1], Nurul Syamelia Afza Samsuri[1], Nur Hidayah Zainuddin[1], Sumaiyah Syed Ibrahim[2]

[1]*Emergency & Trauma Department, Hospital Sungai Bakap Penang*

[2]*Emergency & Trauma Department, Hospital Seberang Jaya, Penang*

Introduction: Ketofol, a mixture of ketamine and propofol, is preferred for procedural sedation anesthesia (PSA) due to its balanced sedation and analgesics effects and strong safety profile. It may still however, induce adverse reactions thus necessitating careful monitoring. This report describes an anaphylactic reaction to ketofol during a procedure in a trauma patient, emphasizing the need for vigilance and rapid response.

Case Description: A 30-year-old male involved in a motor vehicle accident presented to Emergency Department (ED) with large pocket wound over the left chest and frontal head laceration. He was hemodynamically stable with a Glascow Coma Scale of E3V4M5, with alcohol breath smell. As serial bedside ultrasounds showed no pneumothorax or pericardial effusion, it was then decided to proceed with wound exploration and suturing under PSA using intravenous ketofol 50/50. Patient was initially stable under sedation. Five minutes post-administration, patient began coughing. This was initially overlooked as he was still saturating well and attention was focused on managing the wounds. He then developed stridor and saturation began to drop with lung auscultation revealing a silent chest. Recognizing signs of an anaphylactic reaction, immediate treatment was initiated with -Intramuscular adrenaline, adrenaline nebulization using a bag valve mask and intravenous hydrocortisone**.** The patient's oxygen saturation improved from 80% to 98% under bag valve mask ventilation. His GCS improved to E4V4M5, and his lung auscultation normalized. Intubation was deemed unnecessary.

Discussion: Swift adrenaline administrations helps to counteract the life-threatening effects of anaphylaxis by rapidly reversing airway constriction and systemic inflammation. Nebulized adrenaline via a bag-valve-mask ensures direct delivery to the airways, further aiding respiratory support. Pharmacological method was the first line in this case, together with maintaining an open airway and manual bagging. In district setting with limited resources, there were anticipation of difficult intubation and these allows the team to prepare the manpower and equipment should the need for intubation arises.

Conclusion: This case underscores the importance of suspecting anaphylaxis and taking swift action for patient's safety. Even minor symptoms may indicate severe issues, and immediate treatment can prevent complications, ensuring optimal outcomes.

Keywords: Anaphylaxis, Procedural Sedation Analgesia, Ketofol

160

ACUTE SUPRAGLOTTITIS: A POTENTIAL KILLER

Krisnavini Sugumaran, Jien Wey Beh, Mashitah Mohamed Ismail

Emergency and Trauma Department, Hospital Sultan Abdul Halim, Kedah, Malaysia

Introduction: Acute supraglottitis (AS) is an infection and inflammation of epiglottis and its surrounding glottic structures. It is a potentially life-threatening problem leading to airway obstruction. Due to the non-specific clinical presentation, AS poses a diagnostic challenge.

Case Description: A 40-year-old lady with well-controlled diabetes mellitus presented with sudden onset of dysphagia, odynophagia and dysphonia. She denied fever, respiratory symptoms or prior trauma. Oropharynx examination was unremarkable. Patient was sent for a plain radiography of the chest and soft tissue of the neck, aiming to look for thumb sign; but was absent. Blood parameters were within normal range. In view of potential airway compromise, patient was referred to the Otorhinolaryngology team. Flexible nasolaryngoscopy was performed and demonstrated cystic swelling over left aryepiglottic fold, left arytenoid and pyriform fossa obscuring the left vocal cord. Computed tomography (CT) of neck showed a benign cystic lesion of the left hypopharynx causing airway narrowing. Intravenous Dexamethasone and Ceftriaxone were administered prior to admission. She underwent direct laryngoscopy and excision of hypopharynx mass. Histopathological analysis revealed fragments of inflamed fibro-collagenous tissue infiltrated with lymphocytes with an area of tissue necrosis. Patient was discharged well after 1 week.

Case Discussion: Patients with AS usually present with fever, sore throat, dysphasia, dysphonia and leukocytosis. Thumb sign on plain radiograph results from inflammation and swelling of the epiglottis, and has a sensitivity of 88%, but unfortunately was absent in our patient. Bedside fibreoptic nasolaryngoscopy remains the gold standard tool in diagnosis. CT neck is done to diagnose complications, including extension of the infection and formation of multiple abscess. Steroids is increasingly used in AS to stabilise endothelial permeability thus reducing tissue oedema. Should AS patients require intubation, awake intubation is advocated with a mandatory preparation for emergency front-of-neck-access (eFONA).

Conclusion: AS can present with non-specific symptoms, thus causing diagnostic difficulties. Emergency clinicians should have a high index of suspicion with patients presenting with odynophagia sore throat and dysphagia, with a normal oropharynx on examination. Rapid initiation of treatment prevents progression of disease leading to airway obstruction.

Keywords: supraglottitis, adult supraglottitis, thumb sign

161

A MIRACLE IN NEONATAL CARE: 45 MINUTES OF CPR SAVES A NEWBORN'S LIFE IN DISTRICT HOSPITAL

Nuha Zhafirah Nor A'zam[1], Nurul Syamelia Afza Samsuri[1], Nur Hidayah Zainuddin [1], Sumaiyah Syed Ibrahim[2]

[1]*Emergency & Trauma Department, Hospital Sungai Bakap Penang*

[2]*Emergency & Trauma Department, Hospital Seberang Jaya, Penang*

Introduction: In a district hospital, a remarkable event highlighted the life-saving impact of neonatal resuscitation. This case involves a three-day old newborn presented to Emergency Department (ED) unresponsive and cyanotic, with the mother recovering from post-delivery complications elsewhere. The skilled application of the Neonatal Resuscitation Program (NRP) by a dedicated team revived the infant and restored hope to a family that had waited over a decade for his birth.

Case Description: Child was last fed at noon and last observed well at 3:00 PM. He was discovered lifeless and cyanotic by 6:00 PM, and arrived at ED at 7:00 PM with no signs of life. Immediate resuscitation was commenced with rescue breaths and CPR. Despite encountering a challenging Cormack- Lehane grade 3 view, intubation was succesful on the first attempt. Initial blood glucose level was critically low at 1.8 mmol/L, prompting intravenous D10 administration at 2 cc/kg. Intravenous adrenaline (1:10,000 dilution) was administered via the endotracheal tube at 1 ml/kg initially and subsequently at 0.1 ml/kg through a peripheral line, totaling 11 doses. CPR was conducted following NRP guidelines, alongside three IV fluid boluses of 10 cc/kg each. Initially contemplating CPR cessation after one hour due perceived futility, a pulse check at 45 minutes unexpectedly showed signs of spontaneous circulation returning. The newborn was then started on inotropic support as well as given a broad-spectrum antibiotic prior to transfer to the nearest neonatal intensive care unit.

Discussion: Despite initial difficulties, the infant displayed resilience during NICU care, from April 27 to June 14, 2024, until discharge. The infant was primarily treated for inborn error of metabolism, likely carnitine palmitoytransferase 2 deficiency together with multiple conditions, including: spontaneous intracranial bleed (managed conservatively), cardiomyopathy with patent foramen ovale (PFO) and left portal vein thrombosis. He was eventually able to be discharged with follow-up care by a geneticist.

Conclusion: This case report illustrates a newborn's remarkable survival after prolonged CPR, emphasizing the effectiveness of NRP guidelines and the significance of thorough neonatal resuscitation training.Trained doctors in district hospitals is crucial for improving survival rates among neonates without immediate access to specialized care.

Keywords: Neonatal resuscitation, district hospital, neonatal survival

162

'MY HEART SWITCHING GEAR!': A CASE REPORT ON VENTRICULAR TACYCARDIAC (VT) STORM SECONDARY TO DIGOXIN TOXICITY

Yokita Janarthanan[1], Nur Ayu Abdullah[1], Cheng Ming Hann[1]

[1]*Emergency Department, Penang General Hospital, Penang, Malaysia*

Introduction: Cardiac glycoside, Digoxin has been a stalwart in the field of cardiovascular medicine. Digoxin intoxication can have a fatal outcome, particularly in patients with preexisting cardiac dysfunction[2].

Case Description: A 74 years old male patient walked into the Emergency Department with a chief complaint of dyspnoea accompanied by palpitations. His medical history includes hypertension, diabetes mellitus, dyslipidaemia, congestive heart failure (CCF), and ischemic heart disease (IHD). He is on oral Digoxin 0.25mg daily. He was alert and oriented with blood pressure 139/91mmHg, heart rate of 130-186/min (on cardiac monitoring), and temperature 36.2°C. Cardiac monitor showed ventricular tachycardia. Patient was started on IV Amiodarone 300mg while awaiting digoxin toxicity test results. The patient's TDM digoxin level was 4.02 ng/mL, confirming digoxin toxicity. Patient received 80mg of IV Digifab in two doses. Patient deteriorated hemodynamically and was synchronized cardioverted with 120J, 150J, and 200J, followed by another 200J twice. Patient's heart rate remained at 180-199 beats per minute. Subsequently, patient was treated with IV Lignocaine 60mg followed by infusion of 1mg/min. The patient was transferred to the CCU for further monitoring.

Discussion: Digoxin has a narrow therapeutic window, patients on digoxin are at risk for toxicity.[3,4]. Approximately 1% of congestive heart failure patients treated with digoxin develop toxicity[5]. Chronic toxicity of digoxin in patients on long-term digoxin therapy is associated with renal impairment, due to renal elimination. Symptoms can be wide-ranging and exacerbated by chronic conditions and particularly in elderly. 2/3 of patients die due to ventricular arrhythmia[4]. Diagnosis is done by history, clinical findings, ECG, and serum digoxin level[4]. Prompt identification is followed by administering Fab fragments, which bind specifically to digoxin to neutralize its toxic effects. The empiric treatment for adults involves administering 10 vials of Fab fragments. Optimal care includes hydration, oxygenation, vital signs, cardiac monitoring, and correction of electrolyte imbalances.

Conclusion: Digoxin toxicity is diagnosed by combining clinical symptoms with suspected exposure. In elderly patients, adverse outcomes often occur due to resistant arrhythmias and advanced heart block. It is crucial to educate patients correct dose, signs and symptoms of toxicity and need for immediate medical attention in the emergency department.

Keywords: Digoxin, toxicity, arrythmia

163

SEVERE HEMOLYTIC CRISIS IN G6PD DEFICIENCY

Leong Chong Hern[1], Lim Wen Tzien[1], Ian Tey Zhe Yuan[1]

[1]*Hospital Selayang, Selangor, Malaysia*

Introduction: Glucose-6-phosphate dehydrogenase (G6PD) deficiency is a common hereditary enzymatic disorder affecting red blood cells, characterized by reduced activity of the G6PD enzyme essential for protecting cells from oxidative stress in the pentose phosphate pathway. It represents a significant global health issue due to its prevalence and diverse clinical manifestations.

Case Description: A 3-year-old boy with known G6PD deficiency presented to the emergency department (ED) with generalized yellowish discoloration and abdominal discomfort for two days following fava bean consumption. In the ED, he appeared lethargic and jaundiced, with vital signs indicating mild hemodynamic instability. Laboratory findings showed severe anemia (Hb 6 g/dL), marked unconjugated hyperbilirubinemia, and no evidence of liver dysfunction. Diagnosis of hemolytic anemia secondary to fava bean-induced oxidative stress was made, necessitating immediate supportive measures including BiPAP and blood transfusion, followed by urgent pediatric referral.

Discussion: The clinical spectrum of G6PD deficiency ranges from asymptomatic states to severe acute hemolytic crises triggered by infections, certain foods (such as fava beans), and specific medications. The severity correlates with the type of G6PD variant, some causing significant enzyme deficiency and clinical symptoms, while others manifest milder forms. This case exemplifies an acute hemolytic episode confirmed by characteristic laboratory findings: elevated reticulocyte count, indirect hyperbilirubinemia, and decreased haptoglobin. The temporal association with fava bean ingestion underscores the importance of dietary vigilance and environmental awareness in managing this condition.

Conclusion: This case underscores the critical importance of promptly recognizing and managing acute hemolytic crises in G6PD deficiency, particularly in regions where dietary triggers are prevalent. Optimal management involves tailored supportive care, careful medication selection to avoid oxidative stressors, and comprehensive patient education. By highlighting this case, we aim to reinforce the necessity for proactive management strategies that can significantly improve outcomes and quality of life for affected individuals.

Keywords: Hemolytic, G6PD, Anemia, Jaundice

164

BLINDED BY THE BLOCKAGE: A CASE OF SUDDEN VISION LOSS DUE TO CRAO

Lim Wen Tzien[1], Foo Hui Ching[1], Leong Chong Hern[1], Joseph John[1], Ng Siew Eng[1]

[1]*Emergency Department, Selayang Hospital, Selangor, Malaysia*

Introduction: Central retinal artery occlusion (CRAO) is the abrupt obstruction of central retinal artery. It is an uncommon instance of an ocular emergency that requires prompt recognition to prevent irreversible visual impairment.

Case description: 84-year-old gentleman with a background of hypertension presented to emergency department with sudden onset blurring of vision over his left eye. On examination, patient's GCS 15/15 with good CCTVR but a BP of 201/96, HR 87, RR 18, SPO2 99% under room air and afebrile. Other physical examinations were unremarkable. Visual acuity over left eye is unable to appreciate light with a positive RAPD. Patient was arranged for an immediate CT brain that turned out to be normal with no space occupying lesion. Then we served captopril and started on IVI GTN. Patient was immediately referred to ophthalmology and medical for left eye central retinal artery occlusion (CRAO). Ocular massage was done by ophthalmology team however visual prognosis is guarded.

Discussion: CRAO causes sudden painless monocular vision loss. The annual occurrence of this rare incidence is approximately 1-2 in 100,000 people. It is classified into nonarteritic and arteritic CRAO, usually affecting patients with cardiovascular risk factors or giant cell arteritis. Atherosclerosis, emboli and thrombus are the cause of the sudden blockage of the artery. The pathognomonic features of this disease is a positive relative afferent pupillary defect (RAPD) and a cherry red spot on the macula which is shown on this particular patient. Immediate management focuses on causing a sudden raise in pressure hoping that the clot will dislodge into peripheral vessel thus reversing the vision loss. Such ways including ocular massage, rebreathing in a plastic bag and a stat dose of carbonic anhydrase inhibitor. However, CRAO is associated with significant morbidity with guarded prognosis. In order to provide patients with CRAO with complete care, multidisciplinary collaboration is crucial.

Conclusion: CRAO is an ophthalmic emergency that requires rapid recognition and early intervention with close interdisciplinary collaboration for better outcome. By raising awareness, emergency care plays a vital role in picking up signs and symptoms to improve patient's quality of life.

Keywords: CRAO, hypertension, ocular emergency

165

SEEING DOUBLE TROUBLE: A CASE OF INTERNUCLEAR OPHTHALMOPLEGIA WITH A DIABETIC TWIST

Kuek Yong Long[1], Syed Muhammad Bin Syed Ali[1]

[1]*Department of Emergency Medicine, Hospital Canselor Tuanku Muhriz, Malaysia*

Introduction: Internuclear Ophthalmoplegia (INO) is a gaze abnormality characterized by impaired horizontal eye movements, with weakness and adduction of the affected eye. This may be accompanied by nystagmus in the contralateral eye. INO is caused by damage to a specific bundle of nerve fibers in the brainstem called the medial longitudinal fasciculus, carrying signals between the ipsilateral medial rectus subnucleus of the cranial nerves III and the contralateral cranial nerve VI nucleus.

Case Description: A 53-year-old gentleman with underlying hypertension and Diabetes Mellitus, presented with sudden onset of double vision for 4 days. He preferred to close his left eye to avoid double vision. He denied headache or giddiness. His right eye was unable to adduct past midline, while his left eye was able to adduct and abduct, with non-sustained nystagmus upon abduction. Diplopia was present during eye assessment. His neurological examination was unremarkable. MRI brain was done and reported as recent right occipital lacunar infarct. Despite persistent diplopia, he reported improvement in his eye symptoms. His HbA1c was 10.9 and fasting blood sugar was 9.0. Neuromedical team treated him as mononeuritis multiplex secondary to Diabetes Mellitus.

Discussion: This case highlights the challenges of diagnosing INO in the emergency department (ED) due to the broad spectrum of potential causes, in the resource- limited ED setting. It also emphasizes the importance of distinguishing INO from third nerve palsy for early diagnosis and appropriate management. The case also emphasizes the need to consider diabetic complications in patients with INO. Early referral to neurology for definitive diagnosis and targeted treatment is essential.

Conclusion: Diagnosing internuclear ophthalmoplegia in the ED is a complex task due to the multitude of potential causes and the limitations of the emergency setting. While a high index of suspicion for stroke is necessary, a detailed history, physical examination, and appropriate investigations are crucial to identify other common causes, including diabetic mononeuritis multiplex.

Keywords: Internuclear ophthalmoplegia, Diplopia, Diabetes Mellitus.

166

TO BRONCHOSCOPE OR NOT? BRONCHOSCOPY ON PATIENT WITH CONCOMITANT FLUID OVERLOAD AND COMMUNITY ACQUIRED PNEUMONIA

Prasannah Selvarajah[1], Alzamani Mohammad Idrose[1]

[1]*Hospital Kuala Lumpur, Malaysia*

Introduction: Indications for bronchoscopy in an emergency department setting include airway obstruction, lavage of bronchopneumonia patients, and adrenaline lavage to stop pulmonary hemorrhage. We present a case in which a patient presented with fluid overload but was suspected to have a concomitant lower respiratory infection.

Case Description: A 40-year-old gentleman with underlying diabetes mellitus, hypertension, dyslipidemia, congenital heart disease, and congestive cardiac failure presented to the Emergency Department with shortness of breath for 2 days. He also had bilateral lower limb swelling for 2 weeks. The patient had no fever. Upon initial presentation, the patient had supraventricular tachycardia at 184 beats per minute, which reverted to sinus rhythm with verapamil after 3 doses of adenosine failed. The patient was treated for acute decompensated heart failure and given furosemide. His initial oxygen supplementation of CPAP failed, and he subsequently required intubation. Bedside ECHO showed poor left ventricle contractility. Bedside lung ultrasound showed irregular pleura, scattered B lines, and shred sign on R1-R4 and A lines on L1-L4. CXR showed bilateral haziness. The ABG showed SpO2 92% and PaO2 68 mmHg. The ALT was 165 and AST 383 U/L. A diagnosis of acute decompensated heart failure with concomitant sepsis secondary to community-acquired pneumonia complicated with SVT, acute kidney injury, and transaminitis was made. Bronchoscopy was performed, revealing copious thick, yellowish phlegm, which was suctioned out. Post-bronchoscopy, the PaO2 improved to 212 mmHg. The CXR opacity improved. The patient was admitted to the ICU and subsequently extubated. The blood parameters improved, and the patient was transferred to a regular ward and subsequently discharged.

Discussion: Bronchoscopy is not typically indicated for cases of fluid overload. However, this case highlights the advantages of bronchoscopy in a case of fluid overload that is complicated by a lung infection.

Conclusion: This case illustrates the usefulness of bronchoscopy to improve oxygenation in a case of concomitant fluid overload and pneumonia. It helps reduce secretions obstructing the bronchial tree and improves oxygenation.

167

CRITICAL RESPONSE: ASSESSMENT AND MANAGEMENT OF METHADONE INGESTION IN CHILDREN

Wafiuddin Bin Rujhan[1], Narong Reed A/L Prem[1]

[1]*Emergency and Trauma Hospital Tengku Fauziah Kangar Perlis Malaysia*

Introduction: Ingesting methadone in children is a severe medical emergency because of its powerful opioid effects, which can cause respiratory depression, changes in mental state, and even death. Timely medical care is crucial for effectively managing symptoms and reducing dangers linked with accidental or purposeful exposure.

Case Report: 1 year 8 months Malay boy was brought to our ED by his mother as her son was vomiting for 3 times. Soon, he becoming drowsy and having weird gait. Based on the mother history and reconfirmation from the father, the patient was drinking his father methadone syrup. His father also realise that the patient had consumed 2 of 4 bottle methadone which is 35mg per bottle as his methadone was kept in the car dashboard. Upon assessment, the patient was drowsy and was not in respiratory distress. His pupil was pin point bilaterally and stridor was heard. Initial vital sign upon arrival were BP: 100/57 mmHg, P: 112/m, RR: 8/min and SPO2: 98% RA. The patient was put on oxygen HFMO2 10L/min, IVD NSD5% 42ml/h and CBD was inserted for urine drug test. Urine drug showed that this patient was indeed positive with methadone. IV Naloxone 1mg STAT was given and the patient suddenly regain consciousness as soon as the IV Naloxone was administered. Patient general condition was improving as his GCS was 15/15, not tachypnoeic or bradypnea, pupils mm bilaterally reactive and was able to move all four limbs. The patient was treated as alleged methadone ingestion and the case was referred to paediatrician on call for further management on their expertise.

Discussion: Evaluating methadone use in children entails assessing the quantity consumed, timing of consumption, and symptoms such as respiratory depression and changes in mental state. Urgent medical intervention is necessary for management, which includes providing assistance with the airway, administering naloxone, and closely monitoring the patient in a hospital environment.

Conclusion / Learning Point: Immediate medical assistance is required for children who have ingested methadone due to its potentially life-threatening consequences. Prompt identification and timely treatment can greatly enhance results, underscoring the significance of attentiveness in households where methadone is present.

Keywords: methadone, bradypnea, pin point, urine, Naloxone

168

PAEDIATRIC STROKE IN 2 YEAR-OLD GIRL- A RARE CASE OF MOYAMOYA DISEASE WITH MENINGIOMA

Nik Mohammad Aliff[1], Elise Wong[1]

[1]*Hospital Tunku Azizah, Kuala Lumpur, Malaysia.*

Introduction: Moyamoya disease is a rare progressive cerebral vasculopathy that may affect both children and adult. However, presentation during infancy is extremely uncommon. We report a case of a 2-year-old girl who was diagnosed with Moyamoya disease with an incidental findings of meningioma.

Case: A 2-year-old girl with no relevant medical history presented with sudden onset of right-sided body weakness. The child has no syndromic features, but café-au-lait lesion noted over left lumbar region and right upper limb. On examination, her Glasgow Coma Scale (GCS) was 15/15 with normal tone bilaterally and muscle power of 3/5 over the right side of the body. Reflexes were normal bilaterally, clonus absent and Babinski downgoing. Her cranial nerve and cerebellar examinations were unremarkable. The CT brain plain showed hypodensity on left frontal lobe with sulci effacement. MRI and MRA brain revealed a left frontal lobe recent infarct, left parietal old infarct, bilateral supraclinoid ICA (internal carotid artery) stenosis with multiple collateral vessels (Moyamoya disease Suzuki-stage 3) and incidental findings of right temporal lesion-meningioma. Parents were not keen on surgical intervention for meningioma hence treated conservatively. Child was started on daily aspirin, given USG carotid outpatient and continued on regular physiotherapy. Subsequent follow-up showed child improves with rehabilitation.

Discussion: Moyamoya disease causes the Circle of Willis vessels to become progressively occlusive and eventually lead to ischemic stroke. The fragile collateral vessels may cause hemorrhagic stroke. It affects females twice than males. It is a leading cause of stroke in children which peaked at 5 to 9 years old. The coexistence of Moyamoya vessels with meningioma is rarely reported. The possible etiology are genetics, syndromes and neoplasia. Meningioma that coexists with Moyamoya disease might suggests a neurofibromatosis type II. In paediatric population, stroke can be misdiagnosed as vasculitis, space occupying lesion or intracranial bleed. The misdiagnosis might cause a delay to treatment. Hence a thorough patient history, clinical examination and immediate neuroimaging is vital.

Conclusion: This case is interesting because this is one of the youngest child found to have Moyamoya disease with meningioma. Early diagnosis and treatment are crucial to prevent irreversible complications and to improve child's quality of life.

Keywords*:* magnetic resonance angiography; moyamoya; meningioma; stroke.

169

A COMPLICATION NOT TO BE FORGOTTEN: FENTANYL INDUCED CHEST WALL RIGIDITY FOLLOWING RAPID SEQUENCE INTUBATION

Raja Amir Fikri Raja Sulong Ahmad[1], Amelia Amir[2], Mohd Amin Mohd Mokthtar[1]

[1]*Emergency Department, Hospital Al-Sultan Abdullah UiTM, Malaysia*

[2]*Emergency Department, Hospital Sungai Buloh, Malaysia*

Introduction: Fentanyl induced chest wall rigidity, also known as 'wooden chest syndrome' (WCS), is an uncommonly reported complication. Fentanyl is often used as an agent for pretreatment during rapid sequence intubation to blunt the sympathetic response during laryngoscopy. We report a case of WCS following rapid sequence intubation.

Case description: A 68-year-old male presented to us with a history of gradual reduction in consciousness over a period of two weeks together with cough and breathlessness. He had underlying anaplastic meningioma with extensive history of neurosurgical and oncological interventions. He underwent rapid sequence intubation for airway protection and intravenous fentanyl was given as premedication. Subsequently, the patient developed WCS. He was given intravenous naloxone and recovered spontaneous breathing.

Discussion: Several risk factors are thought to be associated with WCS including administration of fentanyl at a high dose, rapid rate of intravenous injection and presence of neurologic conditions. Although the patient was given a low dose of fentanyl at a slow rate, his underlying condition predisposed him to WCS.

Treatments for WCS include administering a neuromuscular blocking agent, giving naloxone as a reversal agent for opioids and cessation of fentanyl. In this case, despite receiving succinylcholine as a paralytic for intubation, the patient developed chest wall rigidity. We postulate that this is due to the patient receiving a lower dose of succinylcholine. The patient recovered spontaneous breathing shortly after administration of intravenous naloxone.

Conclusion: Although fentanyl induced chest wall rigidity is an uncommon phenomenon, clinicians who routinely employ the agent as part of rapid sequence intubation should always consider risk factors for its development before intubation to aid in prompt recognition and management of this condition.

Keywords: fentanyl, chest wall rigidity, wooden chest syndrome

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

170

A TOPSY-TURVY BUSINESS TRIP: THE UNFORESEEN PRESENTATION OF AORTIC DISSECTION

Mohammad Fhaisol Yusof[1,2], Nurul Huda Ahmad[1,2], Norafizan Mohd Ali[3]

[1]*Department of Emergency Medicine, Hospital Al-Sultan Abdullah UiTM, Puncak Alam, Selangor, Malaysia*

[2]*Faculty of Medicine, Universiti Teknologi MARA, Sungai Buloh Campus, Selangor, Malaysia*

[3]*Department of Emergency Medicine, Hospital Sungai Buloh, Selangor, Malaysia*

Introduction: Atypical presentation of aortic dissection (AD) can pose diagnostic challenge due to its deviation from the classic symptoms of chest or abdominal pain. Gastrointestinal (GI) symptoms like vomiting and loose stool are very uncommon.

Case: I describe here a case of a 52-year-old Japanese man who had a business travel to Malaysia presented to our Emergency Department (ED) complained of vomiting, diarrhea and colicky abdominal pain after having a spicy Chinese cuisine. He was initially treated for infective acute gastroenteritis (AGE). The initial workups showed leukocytosis, and lactate acidosis that responded temporarily with intravenous normal saline boluses. Interestingly, he had one episode of hematochezia in our emergency department and unresolved vomiting. Mesenteric CT angiography (CTA) was done to rule out mesenteric and bowel ischemia. However, the case turned upside down when we found an extensive Standford A aortic dissection that involved the aortic annulus until the external iliac arteries. He underwent a Bentall surgery and was sent back to Japan for continuation of care.

Discussion: This case highlights the challenges associated with diagnosing AD. The presentation varies depending on the specific vessels involved. In this case, the patient's history of consuming Chinese food added complexity to the diagnostic process, potentially leading to consideration of other illnesses like AGE, food poisoning, or intoxication. The patient also required multiple doses of opioids for pain control and the presence of lower GI symptoms raised concern on the need to consider more serious pathologies even when the initial complaints seem less severe. He was given adequate fluid resuscitation and this could be the reason his CTA showed normal bowel and mesentery despite having hematochezia. Failing to consider AD as a potential diagnosis may jeopardize a life. The prolonged observation of this patient in ED also underscores the importance of closely monitoring the perplexing case before discharge.

Conclusion: This case illustrates the importance of vigilance in the management of patients in ED and recognizing atypical presentation of AD, as failure to do so can lead to delay in management and potentially life-threatening consequences.

Keywords: Atypical Aortic dissection, Standford A

171

IN THE SHADOW OF TOLOSA-HUNT-SYNDROME: THE REALM OF ORBITAL PAIN AND OCULAR PALSY

Mohammad Fhaisol Yusof[1,2], Nurul Huda Ahmad[1,2], Norafizan Mohd Ali[3]

[1]*Department of Emergency Medicine, Hospital Al-Sultan Abdullah UiTM, Puncak Alam, Selangor, Malaysia*

[2]*Faculty of Medicine, Universiti Teknologi MARA, Sungai Buloh Campus, Selangor, Malaysia*

[3]*Department of Emergency Medicine, Hospital Sungai Buloh, Selangor, Malaysia*

Introduction: Tolosa-Hunt Syndrome (THS) stands as a rare and painful condition characterized by unilateral, partial or total ophthalmoplegia.

Case: 30-year-old woman presented with a 7-day history of drooping of the right eyelid following intermittent fever, double vision, and headache episodes. The onset of eyelid drooping was gradual, without a discernible pattern of fatiguability. Despite seeking treatment from multiple centers, her condition remained unresolved. She exhibited complete ptosis of the right eye, and had cranial nerve III, IV, and VI palsies without nystagmus or proptosis. Pupils were reactive and equal bilaterally. Infective markers, cerebrospinal fluid (CSF) analysis and autoimmune workups yielded normal results. MRI of brain and orbits revealed increased T2W signal intensity of right optic nerve, thickening, and enhancing right lateral wall of cavernous sinus and enhancement of right orbital apex. She received a daily intravenous dose of methylprednisolone, and upon symptoms improvement, was discharged with oral prednisolone regimen.

Discussion: Tolosa-Hunt syndrome, a rare painful ophthalmoplegia, has an estimated annual incidence of one case per million. It results from idiopathic inflammation in the cavernous sinus affecting cranial nerves III, IV, and VI, often leading to misdiagnosis. This syndrome should be suspected in a patient with unilateral headache, granulomatous inflammation of cavernous sinus or orbit evidenced by MRI or biopsy, and paresis of ipsilateral CN III, IV, and/or CN VI. In severe cases, optic and facial nerves may be involved, risking permanent visual loss if left untreated. The gold standard treatment involves high-dose glucocorticoids followed by tapering doses, and rapid pain resolution confirming the diagnosis. A study from Jeremy et.al, in 2008 showed that diagnostic uncertainty and misdiagnosis occurred in over one-third of all neurological consultations in ED. Misdiagnosis in Emergency Department (ED) could lead to incorrect treatment and worse prognosis for the patient. Efforts to enhance diagnostic accuracy are vital to provide the optimal care to patients with neurological conditions.

Conclusion: Tolos-hunt-syndrome remains an uncommon diagnosis in ED. Educational strategies on the common and uncommon neurological presentations in ED could enhance diagnostic accuracy and lead to improved patient care.

Keywords: Tolosa-hunt-syndrome, orbital pain, ocular palsy

172

AORTIC DISSECTION PRESENTING AS STROKE.

Poonggodi Perumal[1], Muhammad Aslam Ayob[1]

[1]*Emergency and Trauma Department, Hospital Raja Perempuan Zainab II, Kota Bharu, Kelantan*

Introduction: Aortic dissection (AD) is a rare and life-threatening cardiac condition that affects the aorta. Typical symptoms are reported in more than 80% of cases and include the sudden onset of severe or tearing chest pain. Neurological symptoms also occur in 17% to 40% of cases, which can sometimes mimic stroke and contribute to delays in diagnosis. Therefore, understanding these acute dissection-induced neurological symptoms is crucial for timely and effective management.

Case report: A 50-year-old male with multiple comorbidities presented with acute left-sided chest pain and right lower limb weakness. Neurological examination revealed reduced power (3/5) in the right lower limb, with normal tone and reflexes affected on the same side. Electrocardiogram (ECG) was noted sinus bradycardia and left ventricular hypertrophy (LVH), but no acute ischemic changes. Chest radiography demonstrated mediastinal widening, and Transthoracic Echocardiogram (TTE) showed a 3.6cm aortic root with an intimal flap over the aortic arch. Computed tomographic angiography (CTA) confirmed a long segment Stanford type A aortic dissection. The patient was referred to Hospital Serdang for surgical intervention ,but unfortunately, he passed away en route to the hospital.

Discussion: AD is a rare condition, affecting between 5 to 30 cases per million people annually. Stroke induced by AD is relatively uncommon, observed in approximately 15.7% of patients with AD. However, the majority of patients experiencing neurological symptoms alongside AD initially present with tearing chest pain. Misdiagnosis or delayed diagnosis of AD can result in significant mortality and morbidity. TTE is a realible method for diagnosing AD. TTE can shows aortic diameter, intimal flap, false lumen and pericardial effusion. Classical treatment recommendations include direct surgical intervention for type A aortic dissection, underscoring the urgency of accurate and timely diagnosis through modalities like TTE to optimize patient outcomes.

Conclusion: This case emphasizes the importance of considering AD in the differential diagnosis of stroke-like presentations, especially in patients presenting with acute chest pain and neurological deficits. Early recognition and timely intervention are crucial to improving outcomes in such complex clinical presentations.

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

173

NOVEL MECHANISM FOR PSYLLIUM HUSK PERICARDIOCENTESIS MODEL

Alya Adnan[1], Nelson Tan[1], Samuel You[1], Jebby Yii[1]

[1]*Emergency & Trauma Department, Miri General Hospital, Sarawak*

Introduction: Cardiac tamponade presents a critical challenge among medical providers due to limited proficiency in pericardiocentesis, a life saving procedure in view of lacking in training mediums and opportunities.

Case description: Various pericardiocentesis training models employing multiple mediums including gelatin, agar, psyllium husk, balloon models and 3d printed models were developed to tackle this void.

In response, Hospital Miri Emergency & Trauma Department has come up with a novel mechanism for pericardiocentesis training model, utilizing the existing gelatin and psyllium husk recipe to mimic normal soft tissue, pericardial sac, pericardial fluid and heart to enhance the accessibility to pericardiocentesis training. We are reporting our first usage of this model in a Trauma Life Support Malaysia (TLSM) Course in Miri this year.

Discussion: This report describes the innovative mechanism psyllium husk pericardiocentesis training model developed in Hospital Miri. We discuss the advantages and drawbacks of our mechanism from the traditional psyllium husk pericardiocentesis model. The debut of our model in TLSM Miri 2024 indicates for it to be cost efficient, sustainable, and were able to mimic the layers of tissue, pericardial sac, pericardial fluid and heart thus enhancing the training experience for this procedure.

Conclusion: The introduction of our novel mechanism of pericardiocentesis training model provides an innovative upgrade over the existing psyllium based training model as we offer improved accessibility, reusability and better realism for pericardiocentesis training.

Keywords: Pericardiocentesis, Training model, Psyllium husk model

174

THE ART OF HUSTLE: CATCHING INFECTIVE ENDOCARDITIS IN EMERGENCY SCRAMBLE

Nur Izzah Md Akhir[1], Mahathar Abd Wahab[1]

[1]*Emergency And Trauma Department, Hospital Kuala Lumpur*

Introduction: Bedside point-of-care cardiac ultrasound (POCUS) plays a major role in diagnosing Infective Endocarditis (IE). Recently, the integration of advanced echocardiography techniques is rapidly expanding within POCUS in the emergency department (ED). Herein, we share a case of a middle- aged man diagnosed as possible IE through POCUS findings.

Case Description: A 52-year-old physically fit man presented with acute shortness of breath, hemoptysis, and fever for a day. Initial clinical suspicion favoured acute pulmonary oedema secondary to pneumonia.

However, point-of-care ultrasound (POCUS) revealed mitral valve prolapse without vegetation. Considering the new pansystolic murmur and fever, the diagnosis was revised to possible IE with suspected septic emboli. Non-invasive positive pressure ventilation, broad-spectrum antibiotics and diuretics were initiated. Echocardiography on day three of hospitalization demonstrated a 1.5cm vegetation on the mitral valve, fulfilling modified Duke criteria for IE. Blood cultures remained negative, but *mycoplasma pneumoniae* serology was positive. The patient responded well to azithromycin and was transferred to cardiac centre for further management.

Discussion: Acute valve regurgitation is the most common finding leading to heart failure in native valve IE. Cardiac POCUS or focused cardiac ultrasound (FoCUS) is widely used to assess patients with heart failure symptoms like ours[1]. This case report shows importance of initial imaging test to find the cause of acute heart failure and ruling in the diagnosis of IE, hence leading to appropriate care plan.

FoCUS can assist to detect cardiac valvular regurgitation or visible vegetation. In our case, although initial FoCUS only demonstrates mitral valve prolapse with no vegetation, later formal echo confirms the IE diagnosis. The sensitivity for comprehensive echocardiography in detecting vegetation is about 75%. However, it may reduce further if it is in early stage of disease. It is important to note the limitations of FoCUS in the evaluation of possible IE[2]. Generally, cardiac POCUS should not be used to rule out infective endocarditis.

Conclusion: Diagnosing IE in an acute care setting is enigmatic. However, with clinical suspicion and POCUS, early recognition of IE is possible. Thus, timely treatment could be provided.

Keywords: Infective endocarditis, POCUS

175

WHEN STROKE MEETS HEART ATTACK: A CASE REPORT ON CONCURRENT ACUTE EVENTS

Faezah AK[1], Azzlee Mustafa[1], Emi Noorina[1], Faez Baherin[1]

[1]*Hospital Tuanku Ja'afar Seremban*

Introduction: Acute ischemic stroke (AIS) and acute ST elevation myocardial infarction (STEMI) are both life-threatening condition with narrow therapeutic window. We report a case of AMI with concurrent AIS, which poses an unusual therapeutic challenge.

Case: A 58-year old gentleman presented with left-sided body weakness for one hour associated with presyncopal attack and profuse sweating. He denied any chest pain or shortness of breath. Initial vital signs in the emergency department (ED) was stable. Neurological examination revealed diminished power (3/5) over the right side of the upper and lower limb with no changes in speech and mentation. The remaining examination was unremarkable. Immediate CT brain revealed recent left parietal lacunar infarct with Alberta Stroke Programme Early CT Score (ASPECT) Score of 9 and no intracranial bleed. His electrocardiogram (ECG) showed ST elevation over the inferior lead with concomitant posterior and right sided involvement. Bedside transthoracic echocardiography showed regional hypokinesia over inferoposterior region and no intracardiac thrombus was noted. Patient was subsequently thrombolysed with IV alteplase. During thrombolysis, patient developed transient complete heart block which responded with IV atropine. Double antiplatelet and anticoagulant was initiated 24 hours after thrombolysis. Patient was discharged well with intact neurological status with Modified Rankin Score (MRS) of 5 and complete resolution of ECG and anginal symptoms.

Discussion: A simultaneous occurrence of AMI and AIS termed cardio-cerebral infarction (CCI) is a rare phenomenon with an incidence of 0.009%. Management of CCI is very challenging because prioritizing one at the expense of the other will result in a raised morbidity status. Arranging primary percutaneous coronary intervention (PCI) for STEMI in this case would delay the management of the AIS and vice versa. According to the 2018 AHA guidelines on CCI, it is recommended that patients experiencing both acute ischemic stroke and acute MI could benefit from initial treatment with intravenous alteplase at the appropriate dose for cerebral ischemia, followed by consideration of percutaneous coronary angioplasty and stenting if necessary. Time is both brain and myocardium; treatment should be promptly given to all CCI patients. However, decisions should be made carefully after weighing all the pros and cons of the intended treatment.

Conclusion: In patients with CCI, treatment with intravenous alteplase at the dose appropriate for cerebral ischemia, followed by PCI afterward, is the preferred treatment.

176

PENETRATING CHEST INJURY WITH RETAINED PROJECTILE. IS REMOVAL MANDATORY?

M Nasreen[1], NH Ahmad[2], M Yuzaidi[2], G Dharmendra[2]

[1]*Emergency & Trauma Department, Hospital Sultanah Aminah Johor Bahru, Johor, Malaysia.*

[2]*Surgical Department, Hospital Sultanah Aminah Johor Bahru, Malaysia*

Introduction: Retained cardiac missiles usually result from direct penetration to pericardium or embolization after injury through peripheral or pulmonary vessels which require extensive resuscitation including surgery. We present two cases of retained cardiac missile with two different management.

Case reports: First case, a 37-year-old man foreign worker presented to emergency department complaining of chest pain following pieces of hot steel rod missiles into his left chest. Upon clinical examination, patient was able to saturate under room air with heart rate of 60 beats per minute and blood pressure of 119/72 mmHg. Contrast-enhanced Computed Tomography(CECT) and Computed Tomography Angiography(CTA) were done revealed metallic foreign body at anterobasal left hemithorax. Patient was admitted and treated conservatively. He was discharge well and went back to his homeland with living memo of metal in his body. Approximately 1 hour after the arrival of first patient, a 36-year-old man foreign worker presented with industrial injury in which nail gun accidently missile into the left chest. On assessment, he was hypotensive with bradycardia and subsequently developed cardiac tamponade requiring pericardiocentesis. He then undergone subxiphoid pericardial diagnostic scope and proceeded with sternotomy. The foreign body was removed and primary repair of right ventricle puncture wound was performed. He was monitored in ward and discharge at day 14 post trauma with no further complication.

Discussion: Penetrating cardiac trauma shows high mortality of about 70 to 80 percent compared to other trauma. To date there is no established guideline regarding management of penetrating cardiac missile, but most study described immediate surgery and removal of foreign body once it involves the pericardium sac and haemodynamically unstable patient as there is a risk of complication such as tamponade, pericarditis, erosion or abscess formation. Few cases report described successful non- operative management in retain cardiac missile. Symbas et al recommended a missile that is completely embedded in myocardium or pericardium may be left in place while Davis et al reported removal of foreign body after failure of conservative management is not associated with increased mortality or morbidity.

Conclusion: Management of retained cardiac missile should be individualized based on patient clinical condition, however early suspicious and good early resuscitation is crucial in assisting further management by primary team.

Keywords: cardiac, penetrating, removal

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

177

THE CHALLENGE OF FLYING CHEST DRAIN ACROSS THE MOUNTAINS

Nur Faradilla Mohd Fishol[1], Kuck Jee Yen[1]

[1]*Jabatan Kecemasan Dan Trauma, Hospital Wanita Dan Kanak-Kanak Sabah, Malaysia*

Introduction: Medical Evacuation (Medevac) services in Sabah, coordinated by three tertiary hospitals in Kota Kinabalu, frequently transfer critically ill patients from district hospitals to tertiary centers for urgent intervention.

Case Description: A four year-old girl involved in motor vehicle accident sustained grade 2 liver injury, grade 3 pancreatic injury, right adrenal hematoma and bilateral pneumothorax with lung contusion. A chest tube was inserted on the right side. Subsequently, her condition deteriorated requiring intubation, blood transfusion and hemodynamic support with inotropes. She was referred to Paediatric Surgical Team for urgent intervention. Medevac was activated to transfer her from Tawau Hospital to Paediatric Surgical Intensive Care Unit at Sabah Women and Children Hospital (SWACH) in Kota Kinabalu.

Discussion: Transferring patient with pneumothorax by helicopter is challenging, especially across Sabah′s mountainous terrain with varying peaks. According to Boyle′s Law, the volume of gas is inversely proportional to its pressure. At high altitude, reduced atmospheric pressure can significantly expand the pneumothorax. Meticulous strategies were implemented, including multidisciplinary coordination, flying at the lowest safe altitude, careful positioning and packaging of the patient, keeping the chest tube unclamped with the underwater-sealed bottle below chest level, and continuous vital signs monitoring throughout the journey.

Conclusion: Optimizing the patient′s condition before flying is crucial. Modifications were made to ensure safe transfer of pneumothorax patient, particularly in a non-pressurized cabin. Thorough preparation of the team and equipment, considering available resources, geographical factors, and understanding the physics and physiological management, are paramount.

Keywords: Pneumothorax, Air travel, Altitude

178

MY TUMMY IS ABOUT TO BLOW

D. Jaindren[1], K. Kangasothy[1], R. M Isa[1]

[1]*Department of Emergency and Trauma, Hospital Ampang, Malaysia*

Introduction: Abdominal Compartment Syndrome (ACS) is a near fatal condition that remains a diagnostic challenge till date. A tense abdomen, respiratory distress and oliguria is said to be the triad of ACS. However, in view of its non-specific presentations, lack of proper measuring tools and delay of the timely intervention, it has resulted in high mortality rate.

Case: A 26-year-old lady was rushed to the Emergency Department (ED) with complaints of a 2-day history of vomiting, diarrhea, abdominal distension and respiratory distress. Her abdomen was grossly distended, rock hard and tender. Patient developed severe respiratory distress, thus was intubated and ventilated. Chest radiograph shows air under diaphragm bilaterally and abdomen radiograph shows dilated large and small bowels with pneumoperitoneum. 2 hours post intubation, patient was noted to be pulseless and cardiopulmonary resuscitation was commenced. Noted there was subcutaneous emphysema on her right chest. A chest tube was inserted and foul-smelling fecal like material was drained out. Patient eventually succumbed to death.

Discussion: Intra - abdominal hypertension (IAH) and ACS represent a severity of disorder that carries a significant morbidity and mortality if left untreated. In this case, patient presented with the triad of ACS which is tense abdomen, shortness of breath and oliguria/ anuria. The WSACS method for diagnosing IAH is by using an intra- abdominal pressure monitor. Such equipment is not available at our local setting, which is one of the pitfalls in tackling ACS. Gold standard treatment includes surgical decompression in the operating theater. However, in the local setting of ED, abdominal paracentesis via a large bore branula could have been performed to reduce the intra – abdominal pressure but there are many challenges and limitations faced in performing this procedure.

Conclusion: IAH and ACS are a diagnostic challenge and has to be intervened immediately. An early suspicion and abdominal intervention are needed to save patients with ACS. In the ED setting, intravenous fluids, inotropic support, head positioning, gastric decompression via nasogastric tube and abdominal paracentesis may be performed early in suspicion of ACS.

Keywords: Abdominal Compartment Syndrome, Intra - abdominal Hypertension, Abdominal Paracentesis

179

THE INCIDENT SWEPT OFF MY FEET – RIPPED MY VESSEL AND BROKE MY HEART

Shobna Veerapan

Department of Emergency and Trauma, Hospital Tengku Ampuan Rahimah General Hospital, Klang, Malaysia

Introduction: We present an interesting MVA case in our centre which turned to be an unexpected fatal traumatic aortic dissection.

Case Description: A 29 years old lady, with morbid obesity involved in a MVA (motorbike skidded). Presented with central chest pain, facial injuries and left upper limb pain. Upon arrival to emergency department, GCS full, vital signs within normal parameters, primary survey was unremarkable. E-FAST scan negative. During secondary survey, we noticed patient unable to move bilateral lower limbs despite absence of any deformities. Patient did not complain of any back pain and there were no spine tenderness/crepitus or step deformities over spine. Power 0/5 over bilateral LL and absence of sensation from T12 and below which is unusual for any trauma patient without brain/ spine injury. Bilateral femoral, popliteal, DPA/PTA pulse were absent. Doppler ultrasound shows absence of blood flow over bilateral lower limbs. Patient were co-managed with general surgical team and proceeded with CTA thorax & abdomen and CECT abdomen & pelvis which confirmed descending thoracic aortic transection/rupture with intramural and mediastinal hematoma. There were no intra-abdominal injuries.

Discussion: Managing traumatic aortic transection may be challenging, especially in centre without cardio thoracic surgery team services. In this case, challenges include allowing targeted lower systolic blood pressure (SBP) to maintain integrity of formed intramural hematoma besides maintaining MAP and CPP as this patient was intubated. Much to learn as this patient safely and successfully transferred from Tengku Ampuan Rahimah general hospital to Serdang general hospital which located about 43km away for cardiothoracic team intervention is not an easy task. However, we were informed by Serdang GH team that patient succumbed to her condition and passed away in Serdang GH, Intensive Care Unit (ICU) hours after transfer.

Conclusion: Managing traumatic aortic transection is not an easy task especially in centre without cardiothoracic team. We proudly present case which well managed in our centre juggling between maintaining integrity of thoracic aortic transection hematoma, maintaining CPP and high risk interfacility transfer of critically ill patient.

Keywords: Aortic Transaction, E-FAST, CECT , cardiothoracic team , SBP

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

180

CASE REPORT: DIARRHETIC SHELLFISH POISONING IN PEDIATRIC

Ahmad Izwan Sapri[1], Nurul Fateha Binti Abdul Rahman[2], Anisah Binti Adnan[2]

[1]*Department of Emergency and Trauma, Hospital Alor Gajah*

[2]*Department of Emergency and Trauma, Hospital Melaka, Melaka, Malaysia*

Introduction: Shellfish toxin syndrome is related to a poisoning due to consumption of oyster or clams harvested from costal area infected with biotoxin. Neurotoxic shellfish poisoning (NSP) is fatal and widely discussed but diarrheic shellfish poisoning (DSP) is carrying mild symptom but can be life threatening in pediatric population.

Case Presentation: A three-year-old girl with no-known medical illness presented to resuscitation zone for multiple episodes of vomiting and loose stool, more than twenty episodes. Prior to that, patient was eating seafood. She developed this symptom two hours after consuming it. Upon presentation to emergency department, patient was lethargic with GCS E4V4M6, good pulse volume, poor skin turgor, sunken eye and crying without tears. Patient was normotensive and tachycardic with normal saturation. Patient subsequently diagnosed as food poisoning, with severe dehydration 10%, possible diarrhetic shellfish poisoning. The shellfish sample was sent to the laboratory for the detection of biotoxin level. Patient was admitted to PICU and after three days of admission, she was discharged well.

Discussion: Diarrhetic shellfish poisoning (DSP) is one of the shellfish toxin syndromes. Among all the shellfish toxin syndrome, paralytic shellfish poisoning (PSP) is one of the poisonings which carried mild symptom whereas (NSP) produced most fatality. DSP produces gastrointestinal symptoms, usually beginning within minutes to a few hours after consumption of toxic shellfish and symptom can last up to 72 hours. Although not fatal, the illness is characterized by diarrhea, nausea, vomiting, and abdominal pain. Treatment is supportive. If left untreated patient can developed severe dehydration. Management of the case should not be stop in the hospital level. It must be followed by the detection of contaminated shellfish in the area. It is crucial in protecting the public from getting infected by the biotoxin. The public health official, fisheries department, need to be informed in the effort to mitigate measure in the affected area from causing outbreaks.

Conclusion: Managing shellfish toxin syndrome is a multidisciplinary and interagency approach in treatment and prevention of the complication.

Keyword: Shellfish toxin syndrome, Diarrhetic shellfish poisoning, Pediatrics

181

SWALLOWED DANGER: FISH BONE-INDUCED EPIGLOTTITIS TRIGGERING AN AIRWAY EMERGENCY

Barathan Manoguran[1], Tan Chun Chau[1], Varrsha Manoharan[1], Siti Fatimah Kather Hussain[1]
1Emergency and Trauma Department, Hospital Seberang Jaya, Pulau Pinang, Malaysia

Introduction: Epiglottitis, an inflammation of the epiglottis, is typically caused by bacterial infection but can also result from trauma, such as the ingestion of a foreign body like a fish bone. Symptoms range from mild foreign body sensation to severe airway compromise and deep neck space infection.

Case description: A 74-year-old Chinese man presented to the emergency department with acute left-sided neck swelling, odynophagia, hoarseness, and drooling, which began two days after accidentally ingesting a fish bone. Physical examination revealed mild tachypnea, stridor, and a 1x2 cm swelling on the left side of his neck. Flexible Nasopharyngolaryngoscopy (FNPLS) showed an edematous epiglottis, vallecula, arytenoids, and partially visualized vocal cords, but no foreign body was detected. Computed tomography revealed a radiopaque foreign body on the left side of the neck, along with edema involving the epiglottis, aryepiglottis, and left parapharyngeal wall, suggesting early abscess formation. The patient underwent elective intubation via awake fiberoptic intubation and examination under anesthesia (EUA) for incision and drainage. Epiglottitis was observed and minimal pus drained from left lateral pharyngeal, but the foreign body could not be located. Patient was then treated with intravenous dexamethasone and broad- spectrum antibiotics. A subsequent direct laryngoscopy and EUA successfully removed the fish bone. He recovered well and was discharged with outpatient follow-up. FNPLS prior to discharge showed resolved soft tissue edema with minimal slough over the vallecula.

Discussion: Epiglottis impaction by a fish bone is rare due to its anatomical structure. However, swelling of the epiglottis can severely obstruct the upper airway, potentially leading to complete obstruction and sudden death. Therefore, it is crucial to promptly identify symptoms of acute airway compromise following foreign body ingestion. Early diagnosis, immediate removal of the foreign body, and intensive treatment with steroids and antibiotics are essential to improve patient outcomes and prevent severe complications.

Conclusion: Maintain a high index of suspicion for patients presenting with upper airway obstruction symptoms and a history of foreign body ingestion. Early referral to ENT team is essential for appropriate assessment and management, irrespective of symptom severity or duration since ingestion.

Keywords: Epiglottitis, Foreign Bodies, Airway Obstruction

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

182

GUILLAIN-BARRÉ SYNDROME WITH ACUTE DISSEMINATED ENCEPHALOMYELITIS IN A PEDIATRIC PATIENT: A CASE REPORT

Muhammad Nur'azmi Mohd Hisam[1], Ab Halim Sanib[1]

[1]*Department of Emergency Medicine, Universiti Teknologi MARA (UiTM)*

Introduction: Guillain-Barré Syndrome (GBS) is an acute polyneuropathy marked by rapidly progressive muscle weakness and paralysis, often triggered by infection. Acute Disseminated encephalomyelitis can co-occur, complicating diagnosis and treatment. This report presents a paediatric case of GBS with acute demyelinating encephalopathy, emphasizing comprehensive care.

Case Presentation: A 12-year-old Indian girl, presented with a one-week history of altered mental status, hallucinations, fever, reduced oral intake, vomiting, and loose stools. Her condition worsened, leading to respiratory distress and intubation. Pre-intubation Glasgow Coma Scale (GCS) was E3V5M6 with power 0/5 bilateral lower limb and absence of knee jerks. Meanwhile upper limb motor power was 2/5 and weak biceps reflex.

Laboratory findings showed elevated TWC 13.4, platelets 114, and high creatine kinase levels, indicating rhabdomyolysis. CECT brain imaging revealed a right thalamic hypodense lesion, suggesting acute infarct or acute disseminated encephalomyelitis (ADEM). Blood cultures were positive for Streptococcus pyogenes, and CSF analysis indicated high protein levels without bacterial growth. Treatment included intravenous penicillin for streptococcal bacteraemia and a 5-day course of intravenous immunoglobulin (IVIG).

Discussion: The GBS with concurrent acute demyelinating encephalopathy in a paediatric patient is uncommon and rare occurrence. Rapid respiratory decline required intubation and ventilation. Neurological symptoms, such as hallucinations, broadened the differential diagnosis, necessitating extensive infectious and inflammatory work-up. Early recognition and treatment with IVIG were critical. Streptococcal bacteraemia necessitated comprehensive antimicrobial therapy. MRI was essential to differentiate peripheral from central nervous system involvement. Collaboration between various specialties was vital for managing this complex presentation.

Conclusion: This case emphasizes the diagnostic and therapeutic challenges of GBS complicated by acute demyelinating encephalopathy. Early intervention, comprehensive work-up, and a multidisciplinary care approach are essential for improving patient outcomes in complex cases.

Keywords: Guillain-Barré Syndrome, Acute Disseminated Encephalomyelitis, Pediatric

183

THE BOY WHO REALLY CRIED WOLF

Ahmad Syahmi Ahmad Sabandi[1], Wan Nuralia Syamimie Wan Ahmad Shahmirrudin[1], Anas Amri Hashim[1], Jien Wey Beh[1]

[1]*Department of Emergency and Trauma, Hospital Sultan Abdul Halim*

Introduction: Renal colic is a common urological emergency presenting with flank pain. Infrarenal abdominal aortic aneurysm (IAAA) is a rare condition with high mortality risk, which has similar presentation, thus it is a common mimicker of renal colic.

Case Description: A 51-year-old gentleman who had renal stone presented with a 2-day history of left loin-to-groin pain. He has visited 2 other emergency departments earlier and was discharged after intramuscular analgesia. Symptoms persisted despite being on regular oral analgesia. Examination on arrival noted pain score of 8, blood pressure 147/99 mmHg, pulse rate 89/min and tenderness over left lumbar, left iliac fossa and suprapubic regions. Bilateral femoral, popliteal, *dorsalis pedis* and *posterior tibialis* pulses were weak. His urinalysis was 1+ for blood. Point-of-care ultrasound (POCUS) revealed an enlarged abdominal aorta measuring 7.6cm x 7.5cm with surrounding free fluid and haematoma. Intravenous (IV) morphine and Labetalol were administered, aiming to maintain systolic blood pressure <120 mmHg. Computed tomography angiogram (CTA) of aorta showed fusiform IAAA with large paraaortic haematoma. The widest diameter was 8.2cm(AP)x8.2cm(W)x12.4 cm(4 vertebral body height), with an intimal flap suggestive of dissection. Bedside Doppler noted biphasic waveforms in bilateral *dorsalis pedis* and *posterior tibialis* arteries. Patient was then referred to the Vascular team for surgical intervention.

Discussion: Renal colic accounts for >20% of misdiagnosed IAAA cases. The presence of severe abdominal pain and microscopic haematuria often lead to a misdiagnosis of renal colic. Clinicians should not ignore a new or worsening pain as it may indicate a rapidly- expanding IAAA or impending rupture. POCUS is a quick and effective bedside diagnostic tool in evaluating the abdominal aorta. It has a sensitivity of 95% and a near 100% specificity in identifying AAA. However, CTA is more superior to ultrasound in determining positional correlation of AAA and its adjacent structures.

Conclusion: Due to non-specific presentations, IAAA remains a diagnostic challenge. Ruptured IAAA is potentially lethal and should be one of the differential diagnosis in patients with severe and persistent renal colic in the absence of significant clinical findings.

Keywords: Renal colic, abdominal aortic aneurysm, infrarenal abdominal aortic aneurysm

184

THE LOCKED MAN

Syed Jamal Fikri Syed Yusoff Fadzil[1], Nur Azreeza Aznamshah[1], Nor Fazliatul Azrin Farouk Shah[1]

[1]*Department of Emergency and Trauma, Hospital Selayang*

Introduction: Tetanus is a rare diagnosis due to Malaysia's large-scale immunisation schedule. We present a rare case of generalised tetanus in an immigrant complicated with rhabdmyolysis and multiorgan failure.

Case description: A 20 year old Myanmar worker with an injured right third toe secondary to alleged hit by metal piece at work presented to us with history of fever, generalised muscle cramping, clenching of teeth and opisthotonus. Two weeks prior, he visited a private clinic and defaulted his daily dressing follow up. His vitals ; GCS 15/15 BP 140/90 PR 100 T 36.5 SPO2 98% under room air with normal hydration status. Clinically, he had limited mouth opening with trismus, occasional opisthotonus and hypertonic abdominal and limbs muscles. He was subsequently intubated in operation theatre in view of difficult airway with otorhinolaryngology team backup. His blood investigation revealed raised total white cell, transaminitis, acute kidney injury with raised creatine kinase. Treatment given were intramuscular ATT 0.5ml, tetanus immunoglobulin 3000u stat and intravenous metronidazole 500mg TDS. He is currently in intensive care with recurrent muscle spasm despite on heavy sedation and multiple muscle relaxant infusion. This has resulted into rhabdomyolysis with CK of 61460 complicated with multiorgan failure.

Discussion: This patient had an antecedent tetanus-prone injury with unknown immunisation and IM ATT status at private practice during initial presentation. His default of daily dressing of right toe predisposed him to unresolved clostridium tetani infection. 80% of tetanus patients present with similar trismus with autonomic instability of tachycardia and fever. Recognising difficult airway is cornerstone in emergency management. Other principles of treatment include halting toxin production with wound management, neutralising unbound toxin with tetanus immunoglobulin and muscle relaxant to control muscle spasms preventing respiratory failure. Autonomic hyperactivity can be managed with magnesium sulfate, beta blockade, dexmedetomidine and others. Multidisciplinary team approach and immediate critical care is vital to ensure good prognosis.

Conclusion: Tetanus is a debilitating and fatal disease if early critical care treatment is missed and require multiple treatment principles required to halt and remove tetanus toxin.

Keywords: tetanus, trismus, difficult airway

185

AN ERRATIC HEARTBEAT – A CASE OF SUPRAVENTRICULAR TACHYCARDIA AS A COMPLICATION OF MYOCARDITIS IN A PAEDITRIC PATIENT

Muhamad Arham Bin Md Ali[1], Kevin Wong Chuing Shen[1], Norhaya binti Abdullah[1]

[1]*Emergency and Trauma Department, Hospital Pakar Sultanah Fatimah, Muar, Johor, Malaysia*

Introduction: Myocarditis is a clinical challenge with potentially life-threatening complications in children. We present a case of myocarditis in a child who presented with supraventricular tachycardia (SVT).

Case Report: A 3-year-old girl presented with fever, cough, and vomiting for one week. She developed facial puffiness and leg swelling on day 5 of illness. In the emergency department, she was tachycardic with a heart rate of 242 bpm, blood pressure of 108/60 mmHg, and oxygen saturation of 100%. Systemic examination revealed gallop rhythm, displaced apex beat, reduced air entry at bilateral lungs' lower zones, and hepatomegaly.

Her electrocardiogram (ECG) showed regular narrow complex tachycardia without P waves. A trial of ice pack over her forehead and Valsalva manoeuvre were unsuccessful. After 2 doses of adenosine, she reverted to sinus rhythm with a heart rate of 125 bpm and QTc of 0.4 seconds. She was admitted to the paediatric high-dependency unit. Her cardiac biomarkers were elevated. Her echocardiography revealed an ejection fraction of 47% with all the chambers dilated. The patient was started on diuretics and propranolol. She was discharged after 11 days of hospitalisation

Discussion: SVT is the most common arrhythmia in children and it is rarely life- threatening. However, in this case, SVT was the complication of acute myocarditis. The clinical presentation of myocarditis can range from asymptomatic to critically ill. ECG changes in myocarditis are usually non-specific and only 17.5% had sustained tachyarrhythmias. Initial management of myocarditis focuses on the management of arrhythmia and heart failure. Definitive treatment depends on the cause of myocarditis. The most common aetiology of acute myocarditis is viral infections, but in this patient her viral screening was negative. Although myocardial damage is contributed by viral-mediated myocyte injury and the host's immune response, there is insufficient evidence to support the use of immunotherapy in myocarditis. In cases of fulminant myocarditis, patients may require extracorporeal life support.

Conclusion: Clinicians should have a high index of suspicion of other pathologies when a child presents with SVT. Early detection and aggressive treatment of myocarditis improve the prognosis and prevent progression into dilated cardiomyopathy.

Keywords: Myocarditis, paediatric, supraventricular tachycardia.

186

IS MY PATIENT WITH ACUTE DIZZINESS HAVING POSTERIOR CIRCULATION STROKE -HOW SHOULD I APPROACH?

Jen Siang Ng[1], Tze Siang Ooi[1], Chui King Wong[1], Alzamani Mohammad Idrose[1]

[1]*Department of Emergency and Trauma, Hospital Kuala Lumpur, Kuala Lumpur, Malaysia*

Introduction: Dizziness is commonly encountered in emergency department. Nonetheless, not all dizziness are due to benign causes.

Case description: A 73-year-old previously healthy lady, presented with sudden onset, continuous dizziness which started since 2 hours ago, which was described as lightheadedness and unsteadiness, and was associated with vomiting. Upon assessment, she was alert and hypertensive, with upbeat nystagmus, left lateral gaze palsy with left internuclear ophthalmoplegia. The tone, power, reflexes of all limbs and cerebellar test were normal. Stroke protocol was activated. Plain computed tomography (CT) brain, CT angiography brain and neck, and CT perfusion were done, which showed acute pontine infarct with basilar artery occlusion, with no perfusion mismatch. Subsequently she underwent intravenous thrombolysis (IVT) with alteplase and she was planned for endovascular thrombectomy (EVT). However while awaiting EVT, patient became less responsive with bradypnea. She was then intubated and mechanically ventilated. Repeated CT brain showed no haemorrhagic transformation. She then underwent EVT, with partial recanalization of basilar artery. However post EVT, patient had poor GCS recovery, and repeated CT brain showed evolving posterior circulation infarct with mass effect causing obstructive hydrocephalus. Patient underwent withdrawal of life support after discussion with family members.

Discussion: Acute dizziness is a common presentation in the emergency department, which encompasses vertigo, unsteadiness/disequilibrium, lightheadedness, presyncope and other non-specific forms of dizziness. Due to newer research, the diagnostic approach to dizziness has changed, now focusing on its timing and triggers instead of the patient's description of dizziness. Based on the timing and triggers, acute dizziness can be classified into acute vestibular syndrome (AVS), spontaneous episodic vestibular syndrome (s-EVS) and transient episodic vestibular syndrome (t-EVS). AVS is a clinical syndrome of acute-onset continuous dizziness lasting days to weeks and generally including features suggestive of new, ongoing vestibular system dysfunction (nausea and vomiting, nystagmus, and postural instability), with differential diagnoses including posterior circulation stroke, vestibular neuritis and other less common causes.

Conclusion: High index of suspicion with pragmatic approach to dizziness will lead to better recognition of posterior circulation stroke which is diagnostically challenging.

Keywords: Dizziness, Acute Vestibular Syndrome, Posterior Circulation Stroke

187

THE HIDDEN PERILS OF RUNNING AFTER DARK: A CASE OF NOCTURNAL HEAT STROKE

Tamil Mullai[1], Kartiga[1], Tan Chun Chau[1]

[1]*Emergency and Trauma Department, Hospital Seberang Jaya, Pulau Pinang, Malaysia*

Introduction: Exertional Heat Stroke (EHS) is a critical condition resulting from the body's inability to dissipate heat produced during intense exercise. It is characterized by significantly elevated core body temperature, central nervous system dysfunction, and multi-organ failure. EHS can occur in hot and humid conditions, regardless of the time of day.

Case description: A 17-year-old healthy girl was brought to the emergency department (ED) by university ambulance one hour after being found unresponsiveness following a two-hours night run at the campus stadium. Upon arrival, her vitals were: blood pressure 94/68 mmHg, heart rate 168 bpm, temperature 39.7°C, oxygen saturation 98% on room air, and Glasgow Coma Scale (GCS) score of E1V2M4. She exhibited muscle spasms in all four limbs. Blood gas analysis revealed lactic acidosis. Initial resuscitation in the ED included aggressive cooling with ice packs, a cooling fan, tepid sponging, and three liters of cold isotonic saline infusion. Her temperature decreased to 37.7°C with good urine output. However, her GCS did not improve, necessitating intubation. A brain computed tomography scan showed generalized cerebral edema without intracranial bleeding. Blood tests revealed rhabdomyolysis (creatine kinase 26,446 U/L) and acute kidney injury. The patient was admitted to the ICU and extubated after three days. Her GCS recovered, and her kidney injury resolved by the time of discharge after six days of hospitalization.

Discussion: EHS can occur with intense physical activity even without extreme environmental conditions due to factors such as high humidity and inadequate acclimatization. This case highlights the vigilance in diagnosing heat stroke following prolonged exertion, even at night. Aggressive cooling measures aimed to address hyperthermia-induced cerebral edema, but the poor GCS suggests potential delays in optimal management and transportation to the hospital. The patient's development of rhabdomyolysis and acute kidney injury illustrates the multisystem involvement of heat stroke. Early recognition and effective management of heat-related illnesses are essential to prevent serious complications.

Conclusion: Nighttime exercise poses hidden risks of heat-related illnesses despite cooler temperatures, with humidity and acclimatization being contributing factors. Early diagnosis, aggressive cooling, and proper hydration remain the cornerstones of effective EHS management.

Keywords: Heat stroke, Exercise, Cerebral edema

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

188

FLOODED EMERGENCY DEPARTMENT! : NAVIGATING INTERNAL HOSPITAL DISASTER RESPONSE PLAN

Hazaril Fiqrie Sudarman[1], Alzamani Mohammad Idrose[1]

[1]*Department Of Emergency and Trauma, Hospital Kuala Lumpur*

Introduction: Flash floods in a hospital can cause serious repercussions in terms of risk to patients' safety and asset damage. We report such situation that occurred at our centre.

Case Description: On 1st June 2024, our department was overcrowded with heavy and long rainfall. Water suddenly started to rise in front and the back of the emergency department, affecting yellow observation, a few cubicles in Isolation 1 Ward and the emergency main store unit. There were also major leaks from the ceiling. The situation was updated by the specialist on duty in the department's management texting group. The hospital's internal disaster plan was activated. Patients in affected zones were admitted to the wards. The middle-level management group was instructed to move equipment to the hospital's first floor. The matter was escalated to the hospital's director and head of departments group so that patients would be accepted into the wards. In a flooding situation, unlike fire, the evacuation is to the higher floor rather than assembly area. The engineering team was then summoned to assist in roof proofing. Utility staff were deployed to mop the floor and prevent water from coming into the department. The police helped divert vehicles. Ambulance diversion was initiated. No patients were injured nor affected. None of the department's assets was damaged. With water receding, stand down was announced after 3 hours.

Discussion: This is an internal disaster that was temporary and self-limiting. If the situation worsens, all patients need to be moved a floor up as the temporary assembly area. Subsequently, if the flooding does not recede, transportation to alternative areas using boats or trucks that could wade in water (those from the Fire and Rescue, etc.) had to be utilized.

Conclusion: Hospitals need to have internal disaster plans and such plans would enable patients and assets to be salvaged. There is a need to have drills or table top exercises to handle such situations smoothly. A strategic partnership with multiple agencies that could assist with boats and trucks to transport patients through flood water should be established in situations that may require their assistance.

Keywords: Emergency department, flash flood, emergency evacuation

189

IS WELLS' SCORE ALWAYS WELL?

Jen Siang Ng[1], Tze Siang Ooi[1], Izzah Nadzrina Aimienur Suhaimi[1], Soo Ling Goh[1], Chui King Wong[1]

[1] *Hospital Kuala Lumpur, Kuala Lumpur, Malaysia*

Introduction: Pulmonary embolism is not uncommon, with its probability determined by clinical gestalt or risk stratification tools such as Wells' score.

Case description: A 58-year-old man, underlying diabetic nephropathy with nephrotic syndrome, presented with breathlessness and fever. He was tachypneic, tachycardic, hypoxic, and febrile with lung crepitations. Electrocardiography (ECG) showed sinus tachycardia with T inversion over lead V1-V3. Bedside echocardiography revealed dilated right ventricle with septal flattening. Arterial blood gas showed hypoxia, metabolic acidosis with wide A-a gradient. Calculated Wells' score fell into 'PE unlikely' category. Nevertheless, urgent computed tomography pulmonary angiography was done in view of high probability according to clinical gestalt and multiple episodes of transient hypotension, which reported bilateral main pulmonary artery thromboembolism and pneumonia. He was diagnosed with unprovoked intermediate-high-risk pulmonary embolism (elevated troponin), and treated with subcutaneous enoxaparin and intravenous antibiotics. Subsequently, he underwent catheter-directed thrombolysis and aspiration thrombectomy with removal of 80% of clot burden. He was discharged with oral anticoagulant.

Discussion: Risk stratification of pulmonary embolism can occur by clinical gestalt or a risk stratification tool such as Wells' score. However, whether to use a risk stratification tool or clinical gestalt is a topic of debate. A meta-analysis of prospective studies found that the sensitivity of clinical gestalt was comparable to risk stratification tools. Wells' score has pitfalls in which it excludes other persistent risk factors (besides active malignancy), ECG and echocardiographic findings within its criteria. Clinical gestalt can be used alternatively for risk stratification. Nephrotic syndrome is under- recognized as a risk factor of thromboembolism, which is related to increased synthesis of prothrombotic factors, urinary loss of antithrombotic proteins, hypoalbuminemia, impaired fibrinolysis, and intravascular volume depletion leading to hypercoagulability and blood stasis. Interventional therapy may be considered as reperfusion strategy in intermediate-risk pulmonary embolism with hemodynamic and respiratory deterioration .

Conclusion: High index of suspicion with use of Wells' score or clinical gestalt is required for diagnosis of pulmonary embolism. The presence of another pathology (pneumonia) does not rule out pulmonary embolism. Timely recognition with prompt treatment will lead to favourable outcome.

Keywords: Pulmonary Embolism, Clinical Gestalt, Wells' Score

190

ALL ROADS LEAD TO ROME – DISCOVERING MORE THAN ONE CULPRIT CAUSING PULMONARY HYPERTENSIVE CRISIS

Phylicia Lim Yi-Tynn[1], Ivan Tan Tek Ming[1], Yip Yat Keong[1]

[1]*Hospital Raja Permaisuri Bainun, Ipoh, Perak, Malaysia*

Introduction: Pulmonary hypertensive crisis occurs when acute rise in pulmonary vascular resistance (PVR) leads to right ventricular failure. We present a complex case of pulmonary embolism (PE) with pneumonia complicating an undiagnosed atrial septal defect (ASD) and pulmonary hypertension (PH).

Case description: A 24 years old lady with prior COVID-19 infection was presented with cough, fever, sudden onset of transient left lower limb numbness and reduced effort tolerance. Upon examination, she was tachycardiac and tachypnoeic with oxygen saturation of 88% under room air. ECG showed sinus tachycardia with right axis deviation; while transthoracic echocardiogram (TTE) revealed dilated right ventricle (RV) and right atrium (RA), as well as D-shaped left ventricle (LV). Moreover, deep vein thrombosis was detected in bilateral lower limbs with a 2-point compression test. She was intubated following respiratory failure. CTPA showed filling defects involving distal right main pulmonary artery, interlobular and segmental branches, as well as left lower lobe segmental artery. Trans-esophageal echocardiogram (TEE) revealed dilated pulmonary artery with elevated PASP of 71mmHg and a large ASD measuring 2.2cm. Despite mechanical ventilation, patient remained hypoxemic. Systemic thrombolysis was administered and milrinone was started to lower pulmonary pressure. Patient recovered with a good neurological outcome.

Discussion: Pulmonary hypertension (PH) is categorized based on common pathophysiological processes, haemodynamic characteristics, clinical presentation and management. In this case, the patient had an undiagnosed ASD which causes left-to-right shunt, leading to development of PH. A past history of COVID-19 infection predisposed the patient to thromboembolic complications. Our patient developed bilateral lower limb DVT and extensive pulmonary embolism (PE). A large embolus in the pulmonary artery results in acute rise in pulmonary vasculature and right heart pressure, leading to right-to-left shunt. This further exacerbates hypoxemia from ventilation-perfusion (V/Q) mismatch due to PE. The clinical presentation of cough and infiltrates on chest radiography is suggestive of pneumonia where hypoxic pulmonary vasoconstriction can worsen pulmonary hypertension.

Conclusion: There can be more than one culprit causing pulmonary hypertensive crisis. Detection of the ASD via POCUS is a crucial finding to suggest pre-existing PH on top of the acutely increased PVR due to PE. This focuses our clinical management toward treatment of pulmonary hypertensive crisis.

Keyword: ASD, pulmonary hypertensive crisis

191

A CASE OF NEUROTOXIC SHELLFISH POISONING FROM INGESTION OF MANGROVE CLAM

Bhairavi A/P Anathe Segar[1], Ahmad Izwan Sapri[2], Anisah Binti Adnan[1]

[1]*Jabatan Kecemasan Dan Trauma Hospital Melaka, Melaka, Malaysia*

[2]*Jabatan Kecemasan Dan Trauma Hospital Alor Gajah, Melaka, Malaysia*

Introduction: Neurotoxic shellfish poisoning is caused by consumption of bivalves feeding on dinoflagellates that produce brevitoxin during harmful algal bloom. There have been no reported cases of fatality from NSP. In Malaysia, most reported cases of shellfish poisoning are paralytic shellfish poisoning (PSP) with a few fatalities.

Case Presentation: A 34-year-old gentleman, with no-known medical illness or allergies developed numbness over perioral, tongue and bilateral fingertips approximately 30 minutes after ingesting 5 mangrove clams. Ignoring the symptoms, the patient continued eating up to a total of 20-30 mangrove clams. Four hours later, he developed generalized numbness of his body and unsteady gait. The patient's wife developed mild symptoms of perioral paresthesia which resolved after a few hours. On arrival to the emergency department, the patient was noted to have ataxic gait. His vital signs were stable. Both the patient and wife were treated as possible neurotoxic shellfish poisoning (NSP) in the hospital. Since there is no specific antidote available for NSP, immediate supportive care was given to the patient and he was admitted to ICU for close monitoring. Samples of uncooked shellfish was collected from the patient's home and sent to Selangor Fisheries Biosecurity Centre for further biotoxin analysis. On day three of admission the patient's symptoms completely resolved and he was discharged with no complications.

Discussion: Brevitoxin is produced by dinoflagellates such as *Karenia Brevis*. The native physiological function of brevitoxin to the dinoflagellate is unknown but osmotic stress is known to increase production of brevitoxin. Bivalves are filter feeders and when feeding on the dinoflagellates, store the toxin in their flesh. Clinical manifestations of NSP include a cluster of neurological and gastrointestinal manifestation such as nausea and vomiting, paresthesia of lips, mouth and tongue, distal paresthesia, ataxia, slurred speech and dizziness. Partial paralysis and respiratory distress has been reported.

Conclusion: NSP and PSP can occur during harmful algal bloom. Inter agency networking and periodic surveillance is vital to prevent any outbreak. Public awareness is of paramount importance to minimize human and public health risk.

Keywords: neurotoxin shellfish poisoning, mangrove clam, brevetoxin

192

MEDICAL STUDENTS' COMPETENCY IN EFAST COMPONENTS

Munawar Farooq[1], Arif Alper Cevik[1], David O Alao[1], Virgie Guy[1], Fikri M. Abu-Zidan[2]

[1]*Department of Internal Medicine, College of Medicine and Health Sciences, UAE University, Al-Ain, Ain, United Arab Emirates.*

[2]*Research Office, College of Medicine and Health Sciences, United Arab Emirates University, Al-Ain, United Arab Emirates*

Introduction: Ultrasound training in undergraduate medical education is developing, and its incorporation in the curriculum requires careful planning. Extended Focused Assessment Sonography for Trauma (EFAST) is commonly taught to medical students as one of the primary applications of ultrasound. Because false negative EFAST scans can affect patient clinical outcomes, it is essential to evaluate the individual components of this skill. We aim to determine which suboptimal EFAST components students perform after initial training.

Methods: In this prospective observational study, 90 medical students of two final-year cohorts were assessed in EFAST components after uniform training during the emergency medicine clerkship. All validated components of the standard EFAST exam were assessed. Descriptive performance analysis in individual components of EFAST was done.

Results: The hepatorenal space, splenorenal space, and pelvic space fluid investigations had the lowest completion rates. Pericardial fluid, pelvic free fluid, and right thoracic pleural fluid investigations were most often incorrectly applied. The fanning was most commonly missed in hepatorenal, splenorenal, and pelvic free fluid investigations. Between 12% to 50% of EFAST components had omitted reporting.

Conclusions: There were significant numbers of incomplete assessments for free intraperitoneal fluid, mostly due to lack of fanning in the hepatorenal, splenorenal, and pelvic areas. By targeting these challenging areas, trainers can effectively enhance student performance and outcomes. Further research might reveal whether residents and physicians show similar trends in EFAST completion.

193

TEAM-BASED-LEARNING IN TEACHING DISASTER MEDICINE FOR UNDERGRADUATE MEDICAL STUDENTS

Fikri M. Abu-Zidan[1], Arif Alper Cevik[2]

[1]*Research Office, College of Medicine and Health Sciences, United Arab Emirates University, Al-Ain, United Arab Emirates*

[2]*Department of Internal Medicine, College of Medicine and Health Sciences, United Arab Emirates University, Al-Ain, United Arab Emirates*

Introduction and Aim: Team-Based Learning (TBL) is accepted as an active learning method with positive effects on learning outcomes (1-2). We aim to report our recent experience in using TBL in teaching disaster medicine for undergraduate medical students.

Methods: 5th year medical students were asked to triage victims of a standardized clinical scenario of a car bomb that resulted in 6 victims using TBL. The injuries ranged between psychological trauma to expectant death. TBL activity was part of the undergraduate surgical curriculum and lasted for 2 hours. 98 medical students (60 females, 38 males) were taught in 24 teams having 3-6 students in 6 sessions (4 teams in each session) during the period of 12 months. Triage was done according to a simple ABC approach. Initially each student did the triage alone, then with the team, and finally with the whole class. A team leader was chosen for each team in which she/he was asked to facilitate the discussion, present the findings, and defend the group decision in the class discussion.

Results: TBL sessions were dynamic, rich in debate, and interactive. The students were completely involved in the discussion and the decision-making process. They showed maturity in understanding the scenario, following the rules, and making and defending their decisions. There were two clear observations on the triage of the students. Students over-triaged the victims and did not use the expectant category.

Conclusions: Principles of disaster medicine, like triage, can be included in the undergraduate curriculum. TBL was useful in promoting working within teams, critical decision making, and leadership; all are essential components of management of disasters.

194

PHYSIOLOGICAL VARIABLES ARE INFERIOR TO TRADITIONAL SCORES IN PREDICTING TRAUMA DEATH

Arif Alper Cevik[1], David Olukolade Alao[1], Kinza Moin[2], Fikri M. Abu-Zidan[3]

[1]*Department of Internal Medicine, College of Medicine and Health Sciences, UAE University, Al-Ain, Ain, United Arab Emirates.*

[2]*Emergency Department, Tawam Hospital, Al Ain, United Arab Emirates*

[3]*The Research Office, College of Medicine and Health Sciences, UAE University, Al-Ain, Ain, United Arab Emirates*

Introduction and Aims: Early prediction of trauma death is essential for proper triage and resource allocation. This study aims to evaluate the prediction ability of new simple physiological parameters in predicting trauma death.

Methods: Data of patients who presented with trauma to Al-Ain Hospital and were admitted for more than 24 hours or died at the Emergency Department from January 2014 to December 2017 were obtained. Patients' demographics, systolic blood pressure, heart rate, respiratory rate, shock index (SI), SI Age, Blood Pressure Age Index (BPAI), SI to Pulse Oxygen Saturation, Minute Pulse, Pulse Maximum Index, Reverse SI (rSI), combined rSI and Glasgow Coma Scale (GCS) score, GCS, Injury Severity Score (ISS), and in-hospital mortality data were analyzed. Significant factors in univariate analysis were entered into a logistic regression model to define factors predicting death.

Results: There were 3519 trauma patients having 1% (n=35) mortality in the registry. Logistic regression model was significant (Negelkerke R squared 0.46, $p < 0.001$). GCS, and ISS were the most significant factors predicting mortality ($p < 0.001$). AUCs for mortality were 0.87 for ISS and 0.9 GCS. A trend was observed in SI and BPAI without significance. The best cut-off score of GCS in predicting survival was more than 14.5 having a sensitivity of 0.956, specificity of 0.824, positive likelihood ratio of 5.43, and a negative likelihood ratio of 0.053. The best cut-off score of ISS for predicting mortality was more than 8.5 having a sensitivity of 0.912, specificity of 0.673, positive likelihood ratio of 2.79, and a negative likelihood ratio of 0.13.

Conclusions: The patient's ISS, and GCS were the most significant factors in predicting trauma death in our setting, with the GCS being the best. The new physiological variables were inferior to them.

195

MANAGEMENT OF PEDIATRIC WAR-RELATED INJURIES DURING THE SECOND GULF WAR

Fikri Abu-Zidan[1], Sami Aman[2]

[1]*The Research Office, College of Medicine and Health Sciences, UAE University, Al-Ain UAE.*

[2]*Department of Surgery, Mubarak Al-Kabeer Teaching Hospital, Kuwait*

Background: The anatomy and physiology of children are different from adults, and they respond differently to injury including war injuries.

Objectives: We aimed to study the demography, mechanism, and outcome of pediatric war-related injuries of the Second Gulf War.

Methods: War-related injured children who are less than 18 years old and who were treated at Mubarak Al-Kabeer Teaching Hospital from August 1990 to September 1991 were retrieved from the War Trauma Registry. Studied variables included age, gender, and anatomical site and mechanism of injury, surgical management, and clinical outcome.

Results: 31 out of 361 of admitted patients were children (8.6%). They had a median (range) age of 15 (1-17). Twenty six (84 %) were males. All patients were civilians. Majority were caused by blast injuries (52%) followed by bullets (32.3%). Majority were Kuwaiti (48%) and Jordanian (42%).

Injuries were highest in the lower and upper limbs (58% and 32 % respectively). Five patients (16.1 %) presented with shock. Six patients needed laparotomy (all were positive), one needed thoracotomy, and three chest injuries were treated with chest tubes. Three patients had femoral artery injuries which were repaired (two venous grafts and one end to end anastomosis; one of these failed). The median (range) hospital stay was 5.5 (1-42) days. All patients survived but one patient had paraplegia, one had above knee amputation and two had below knee amputation.

Conclusions: Pediatric injuries in conventional wars inside cities in which civilians were not directly targeted were less than 10% of injured victims. Despite that the price of these injuries was high.

Keywords: war, injury, children, mechanism, treatment.

196

TRIAGE OF WAR-RELATED INJURED PATIENTS: EXPERIENCES FROM THE SECOND GULF WAR

Fikri Abu-Zidan[1], Imad Ayyash[2], Sami Aman[2]

[1]*The Research Office, College of Medicine and Health Sciences, UAE University, Al-Ain UAE.*

[2]*Department of Surgery, Mubarak Al-Kabeer Teaching Hospital, Kuwait*

Introduction: Triage is an essential part of disaster management which affects its clinical outcome.

Objectives: We aimed to compare two triage methods and their effects on missing injuries during the Second Gulf War.

Patients and methods: The triage system of Mubarak Al-Kabeer teaching Hospital in the first day of the Second Gulf war (2nd August 1990) was different compared with its last day. It consisted in the first day of field triage in front of the hospital and medical triage inside the hospital. Three experienced general surgeons performed the field triage. The manpower was reduced by time. The triage at the last day of the war (26th February 1991) was only an in- hospital triage performed in the Emergency Department by a urologist who had previous experience in General surgery. Experienced surgeons were operating at that time. Data regarding missed injuries were retrieved from the Gulf War Injury Database which was retrospectively collected.

Results: Missed injuries in the triaged admitted patients on the last day of the war was significantly more than the missed injuries of the triaged admitted patients on the first day of the war (1/80 compared with 5/30, $p < 0.01$, Fisher's Exact test).

Conclusions: Triage should be performed by the most expereinced surgeon. Adding a field triage in front of a hospital is useful in improving the triage process.

Keywords: Triage, war, injury

197

EFFECTS OF THE SECOND GULF WAR ON THE MECHANISM OF VASCULAR INJURIES

Fikri Abu-Zidan[1], Imad Zayyat[2]

[1]*The Research Office, College of Medicine and Health Sciences, UAE University, Al-Ain UAE.*

[2]*Department of Surgery, Mubarak Al-Kabeer Teaching Hospital, Kuwait*

Introduction: Wars have long term effects in conflict areas. This includes the post-war change in the mechanism of injury.

Objectives: We aimed to study the effects of Second Gulf War on the pattern of the mechanism of vascular injuries in Kuwait.

Methods: Vascular injuries treated at Mubarak Al-Kabeer teaching Hospital, Kuwait, during the pre-war period of 1984-1990 was compared with published data of vascular injures of the war period (1990-1991) and post war period (1991-1995).

Results: There were 44 pre-war vascular injuries (7.3 cases/year) compared with 36 cases treated during the war (36 cases/ year) and 155 cases treated after the war (19.4 cases/year). The percentage of intentional vascular injuries before the war was 4.6% (2/44), all were stab wounds, compared with 100% during the war, 94.4% due to firearms and blast injuries, and 5.6% due to stab wounds. After the war, intentional vascular injuries were 43.2% of all vascular injuries (67/155), 34.1% were due to stab wounds and 11.1% were due to firearms and blast injuries. This change was highly significant ($p < 0.0001$, Fisher's Exact test).

Conclusions: Wars have long term effects on behaviour of the population increasing the interpersonal violence. Availability of weapons in the hands of civilians increases intentional penetrating trauma

Keywords: war, vascular injuires, violence, penetrating trauma.

198

EXTERNAL VALIDATION OF THE GO-FAR SCORE IN A MIDDLE EASTERN COUNTRY

David O Alao[1], Yaman Hukan[2], Nada Mohammed[2], Kinza Moin[2], Resshme k. Sudha[2], Arif Alper Cevik[1], Fikri M. Abu-Zidan[3]

[1]*Department of Internal Medicine, College of Medicine and Health Sciences, UAE University, Al-Ain, United Arab Emirates.*

[2]*Emergency Department, Tawam Hospital, Al Ain, United Arab Emirates*

[3]*The Research Office, College of Medicine and Health Sciences, UAE University, Al-Ain, United Arab Emirates*

Introduction: The Good Outcome Following Attempted Resuscitation (GO-FAR) score has been externally validated in the USA, Europe and East Asia. However, external validations excluded patients on the Do-Not-Attempt-Resuscitate (DNAR) code. How the GO-FAR score will predict neurological outcomes in populations where DNAR is not practiced remains unknown.

Objectives: To externally validate the GO-FAR score in a population that does not have DNAR order.

Methods: We studied patients ≥18 years old who had an In-hospital cardiac arrest (IHCA) at Al Ain Hospital from January 2017 to December 2019 excluding those who died in the emergency department. Studied variables included demography, location, response time, code duration, initial rhythm, primary diagnosis, admission vital signs, GO FAR, discharge status, and functional outcomes as determined by the cerebral performance category (CPC) score ranging from 1 (good cerebral performance) to 5 (brain death).

Results: 366 patients were studied, 66.7% were males. The median (IQR) age was 70 (55-81) years. Cardiac and respiratory causes were the primary diagnoses in 89 (24.6%) and 67 (18.5%). IHCA occurred in critical areas such as the intensive care unit, high dependency unit and coronary care unit in 206 (80.8%) patients. The majority, 336 (91.8%), had non-shockable rhythm, and return of spontaneous circulation was achieved in 159 (43.4%) of the patients. Thirty-one (8.5%) patients survived hospital discharge, and 20 (5.5%) patients had CPC scores of 1 and 2. The area under the curve of the ROC for survival to hospital discharge was 0.74. The best cut-off point for predicting survival with a good neurological outcome was a GO-FAR score of 3.5, having a sensitivity of 0.81, a specificity of 0.7, a positive predictive value of 2.7 and a negative predictive value of 0.271.

Conclusions: A GO-FAR score of less than 4 predicts survival with a good neurological outcome in a healthcare system with all-inclusive patient population with no DNR practice.

Keywords: Cardiac arrest, prediction, outcome

199

EXTERNAL VALIDATION OF THE CHOKAI SCORE IN PREDICTING URETERAL STONES IN UNITED ARAB EMIRATES: A PROSPECTIVE MULTICENTRIC OBSERVATIONAL STUDY

Mohammad A Rehman[1], Tasnim Ahmed[2], Ahmed AlZaabi[3], Muneer Al Marzooqi[4], Mansoor Husain[4], Rauda AlNuaimi[2], Abdulrahman Alzaabi[2], Saleh SA Fares[5], Fikri Abu-Zidan[6]

[1]*Accident & Emergency, Mediclinic City Hospital, Dubai, UAE*

[2]*Emergency Department, Zayed Military Hospital, Abu Dhabi, UAE*

[3]*Emergency Department, Sheikh Shakhbout Medical City, Abu Dhabi, UAE*

[4]*Emergency Department, Tawam Hospital, Al Ain, UAE*

[5]*Department of Health, Abu Dhabi, UAE*

[6]*The Research Office, College of Medicine and Health Sciences, UAE University, Al-Ain, Ain, United Arab Emirates*

Background: The CHOKAI and STONE scores were developed to predict ureteral stones as a cause of renal colic. To our knowledge, no studies validated these scores in the Gulf area.

Aim: To compare the diagnostic accuracy of the CHOKAI and STONE scores in predicting the presence of ureteric stones in acute renal colic in the United Arab Emirates

Methods: This is a prospective multicentric observational study performed between January 2021 and March 2022, including patients presenting with renal colic who aged >16 years.

Data needed to calculate the CHOKAI and STONE scores were collected prospectively. All patients had non contrast CT scan directly following the data collection. The patients were divided into two groups. Those with ureteric stones and those without it. A Receiver Operator Curve and its coordinates were used to define the area under the curve (AUC) and the best cut off point for predicting the ureteric stones for each of the two scores.

Results: 92 patients were included in the study, 70 had ureteral stones. AUC of the CHOKAI score was 0.85. The best cut-off point of CHOKAI was 7 having a sensitivity of 0.87, a specificity of 0.73, a positive LR of 3.19, and negative LR of 0.178. AUC of the STONE score was 0.8. The best cut-off point of STONE score was 5 having a sensitivity of 0.83, a specificity of 0.64, a positive LR of 2.78, and negative LR of 0.27.

Conclusions: The CHOKAI score is a good and better predictor of the presence of ureteric stones than STONE score in patients presenting with acute renal colic in the UAE population.

Keywords: Ureteric stone, prediction, score

200

A STUDY ON 999 CALLER ACCEPTANCE FOR ONLINE CPR TREATMENT BY MEDICAL COORDINATING CENTRE (MECC) AT TERTIARY HOSPITAL: A NARRATIVE REVIEW

Rosdara Masayuni Mohd Sani[1], Senumi V. K. P. Hingura Kankanamalage[1], Ng Wei Hong[2], Hafizul Haikal Bin Ismail[2], Mohd Rahimi Bin Haroun Harun[2], Michael Lim Yang Song[3]

[1]*Monash University Malaysia, Clinical School Johor Bahru, Johor Bahru, Johor, Malaysia*

[2]*Emergency Department, Hospital Tuanku Jaafar Seremban, N Sembilan, Malaysia*

[3]*Department of Surgery, Hospital Melaka, Malaysia*

Introduction: Cardiac arrest is a sudden loss of heart function and the leading cause of out-of-hospital deaths worldwide. Studies have shown that immediate bystander cardiopulmonary resuscitation (CPR) greatly increases the chances of survival, as brain damage can occur within minutes without oxygen. One way to deliver bystander CPR is with dispatcher assistance, whereby the dispatcher provides instructions for the caller to perform CPR until revival or emergency medical services arrive.

Aim: This research aims to assess the rates of caller acceptance to perform CPR with dispatcher instructions, as well as determine the factors impeding caller acceptance rates.

Methodology: Databases such as Google Scholar, OVID Medline, PubMed, Embase, and Scopus were utilized to perform this review. Search words related to 'online CPR', 'dispatcher-assisted CPR', and 'caller acceptance for online CPR' were used. All articles after 1985 reporting on caller acceptance to perform CPR for out-of-hospital cardiac arrests were selected.

Results: In total, 12 articles were reviewed. Caller acceptance rates ranged from 89% to 5.2% across all the studies, demonstrating high variability in caller acceptance rates. The main factors found to hinder bystander response were the caller thinking that the patient has already passed, the inability to perform CPR due to the caller being in a remote location from the patient or having physical limitations, the bystander already knowing how to administer CPR, or the caller having emotional distress.

Conclusion: Dispatcher-assisted telephone CPR significantly increases bystander response rates, improving patient outcomes. Standardized protocols are essential to address challenges like caller rejection and inconsistent instruction. While caller acceptance rates have been on the rise in recent years, future research needs to be conducted focusing on overcoming the barriers to bystander responses for online CPR.

Keywords: online CPR, caller acceptance, out-of-hospital cardiac arrests

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

201

BLEEDING OUTCOMES OF TICAGRELOR LOADING DOSE IN ST-ELEVATION MYOCARDIAL INFARCTION THROMBOLYSIS WITH STREPTOKINASE AND TENECTEPLASE

Hock Peng Koh[1], Jivanraj R Nagarajah[1], Sin Nan Lai[2]

[1]*Pharmacy Department, Hospital Kuala Lumpur, Kuala Lumpur, Malaysia*

[2]*Emergency and Trauma Department, Hospital Kuala Lumpur, Kuala Lumpur, Malaysia*

Introduction: Asian populations treated with ticagrelor were reported to have a higher bleeding risk despite its reported superiority over clopidogrel in reducing cardiovascular events among patients with acute coronary syndrome. Also, the bleeding outcomes of ticagrelor loading (instead of clopidogrel) with thrombolytic agent among Asian ST-elevation myocardial infarction (STEMI) patients is unknown.

Objectives: This study aimed to assess the bleeding outcomes among STEMI patients who received thrombolytic therapy with a ticagrelor loading dose.

Methods: This single-center retrospective study collected data on STEMI patients who received thrombolytic therapy with a 180mg ticagrelor loading dose in the Emergency Department (ED), Hospital Kuala Lumpur, from September 2020 to March 2024. Total population sampling was used in this study. All data were analyzed descriptively.

Results: A total of 117 patients were included in the analyses. Their mean age was 57.2±12.4 years, and they were predominantly male (n=105, 89.7%). Most had MI with anterior involvement STEMI (n=67, 57.3%) and received tenecteplase as thrombolytic therapy (n=84, 71.8%). The in-hospital mortality was 15.4% (n=18), with more than half (55.6%) of the mortality occurring in the ED (n=10). No major bleeding was observed within 24 hours following the administration of ticagrelor and thrombolytic agent. Eight (6.8%) minor bleeding events (7 cases of gum bleeding; 1 case of epistaxis) occurred in the ED; all gum bleeding case were treated with tranexamic acid gargle.

Conclusion: This is the first Asian study on the bleeding outcomes of ticagrelor loading in STEMI patients treated with thrombolytic agents. Compared to previously published studies for the local population, our findings suggest that ticagrelor loading in STEMI thrombolysis did not increase the risk of bleeding.

Keywords: ticagrelor; STEMI; thrombolysis

202

INCIDENCE AND PREDICTORS OF EARLY MORTALITY IN THE EMERGENCY DEPARTMENT FOLLOWING STEMI THROMBOLYSIS AN A NON-PCI-CAPABLE TERTIARY HOSPITAL

Hock Peng Koh[1], Hasnita Hassan[2], Jivanraj R Nagarajah[1], Noel Thomas Ross[3]

[1]*Pharmacy Department, Hospital Kuala Lumpur, Kuala Lumpur, Malaysia*

[2]*Emergency and Trauma Department, Hospital Kuala Lumpur, Kuala Lumpur, Malaysia*

[3]*Medical Department, Hospital Kuala Lumpur, Kuala Lumpur, Malaysia*

Introduction: Ischemic heart disease remains the principal cause of mortality despite the advancement of coronary reperfusion in the past 40 years. In ST-elevation myocardial infarction (STEMI), pharmacological thrombolysis remains the primary reperfusion strategy in many Asian countries due to the lack of percutaneous coronary intervention (PCI)-capable facilities. However, data on early mortality in the Emergency Department (ED) following STEMI thrombolysis in non-PCI-capable hospitals is unknown.

Objectives: This study aimed to assess the incidence and identify the predictors of early mortality in the ED following STEMI thrombolysis.

Method: This single-center retrospective study involved STEMI patients given thrombolytic therapy from 2016 to 2020 in a tertiary hospital. Early mortality in the ED was defined as mortality that occurred in the ED after thrombolysis. Total population sampling was used in this study. Logistic regression analyses were used to assess independent predictors of early mortality in the ED.

Results: Data from 941 patients was analysed. Their mean age was 53.0±12.2 years and predominantly male (n=846, 89.9%). The in-hospital mortality was 10.3% (n=97), with almost half (n=47, 48.5%) occurred in ED. The final multi-model found seven predictors for early mortality in ED: age ≥75 (aOR 4.474, 95% CI 1.794–11.158, p=0.001), female gender (aOR 3.059, 95% CI 1.462–6.400, p=0.003), pre-existing hypertension (aOR 2.105, 95% CI 1.074–4.126, p=0.030), ischemic heart disease (aOR 0.316, 95% CI 0.104–0.963, p=0.043), Killip class ≥2 (aOR 2.252, 95% CI 1.070–4.470) p=0.033), systolic blood pressure <100 mmHg at presentation (aOR 3.365, 1.515–7.743, p=0.003), and presentation during COVID-19 pandemic (aOR 2.404, 95% CI 1.199–4.822, p=0.014). Following thrombolytic therapy, two predictors found to affect early mortality were failed fibrinolysis (aOR 3.147, p=0.004) and ventricular fibrillation/tachycardia (aOR 10.312, p<0.001).

Conclusion: Early mortality in ED following STEMI thrombolysis was high. STEMI patients should be warded to cardiac care unit early as the provision of comprehensive cardiac care can be challenging due to ED's busy nature. The above-identified predictors of early STEMI mortality in ED allow clinicians to identify and manage high-risk STEMI patients better.

Keywords: STEMI thrombolysis; Emergency Department; thrombolytic agent

203

BLEEDING CHARACTERISTICS AND ITS MORTALITY OUTCOMES IN STEMI THROMBOLYSIS

Hock Peng Koh[1], Hasnita Hassan[2], Jivanraj R Nagarajah[1], Noel Thomas Ross[3]

[1]*Pharmacy Department, Hospital Kuala Lumpur, Kuala Lumpur, Malaysia*

[2]*Emergency and Trauma Department, Hospital Kuala Lumpur, Kuala Lumpur, Malaysia*

[3]*Medical Department, Hospital Kuala Lumpur, Kuala Lumpur, Malaysia*

Introduction: Bleeding events are critical safety endpoints in ST-elevation myocardial infarction (STEMI) thrombolysis. Data on bleeding characteristics and its mortality outcomes following STEMI thrombolysis in the Asian population is scarce.

Objectives: This study aimed to evaluate the bleeding characteristics following STEMI pharmacological thrombolysis and its mortality outcomes in an Asian population.

Method: This single-centre retrospective study included all STEMI patients who received thrombolytic therapy from 2016 to 2020 in a tertiary hospital. Total population sampling was used in this study. The primary outcome includes bleeding events post-thrombolysis, categorised using the Thrombolysis in Myocardial Infarction (TIMI) bleeding criteria. The associations between relevant variables were analysed using inferential statistical tests.

Results: 941 patients were included in the analyses. 156 (16.6%) STEMI patients bled following thrombolysis. TIMI major, minor, and minimal occurred in 7 (0.7%), 17 (1.8%), and 132 (14.0%) patients, respectively. Age ≥65 years ($p=0.031$) and Malaysian Chinese ($p=0.008$) were associated with a higher bleeding incidence. Conversely, foreigners ($p=0.032$) and current smoker ($p=0.007$) were associated with a lower bleeding incidence. Both TIMI major ($p<0.001$) and TIMI minor ($p<0.001$) were associated with a higher incidence of in- hospital mortality among STEMI patients. Total bleeding events were not significantly different between STEMI patients with different thrombolytic agents ($p=0.104$). TIMI minor bleeding was significantly higher in the streptokinase recipients ($p=0.009$). The bleeding sites were comparable between streptokinase and tenecteplase recipients, except for a significantly higher incidence of gastrointestinal bleeding in the streptokinase recipients ($p=0.027$).

Conclusion: There is no increase in the risk of TIMI major and TIMI minor bleeding following STEMI thrombolysis in our Asian population, but they significantly contributed to mortality.

Keywords: STEMI thrombolysis; bleeding; Emergency Department

204

A RANDOMIZED COMPARATIVE STUDY ASSESSING PARENTAL ANXIETY LEVELS DURING BILIRUBIN MEASUREMENT IN NEONATAL JAUNDICE: A COMPARISON OF CONVENTIONAL BLOOD TAKING AND TRANSCUTANEOUS BILIRUBIN METHOD

Syed Muhammad bin Syed Ali[1], Faizal Amri Hamzah[1], Hashim Embong[1], Saharuddin Ahmad[2]

[1]*Department of Emergency Medicine, Hospital Canselor Tuanku Muhriz, Universiti Kebangsaan Malaysia*

[2]*Department of Family Medicine, Hospital Canselor Tuanku Muhriz, Universiti Kebangsaan Malaysia*

Background: Neonatal jaundice screening is important in preventing progression to kernicterus and its morbidity. The transcutaneous bilirubinometer regains popularity as a low-cost, portable neonatal jaundice screening tool whose accuracy is comparable. Its effects on parents are widely accepted as favourable; however, its impact on parental anxiety remains unproven.

Objective: To measure and compare the state and trait anxiety score between parent whom children undergone blood taking for serum bilirubin versus parents whom children undergone transcutaneous bilirubinometer test.

Method: A randomised comparative study at the Emergency Department of the Hospital Canselor Tuanku Muhriz was conducted for the period of 4 month. Parents seeking neonatal jaundice screening were randomly assigned using electronic randomization software to either the transcutaneous bilirubinometer or conventional blood-taking groups. Spielberger's state-trait anxiety index (STAI) questionnaire which is already previously validated both in English and Malay language was used in this study. Permission and license to use STAI questionnaire was obtained from the copyright owners. A baseline trait anxiety score was taken prior the procedure, while state anxiety score was measured after. The scores were recorded and statistically analysed using SPSS software.

Results: Ninety-seven parents participated in this study.

Table 1 The mean trait anxiety score and state anxiety score between the conventional blood-taking (TSB) group and the transcutaneous bilirubinometer (TCB) group.

	Procedure	N	Mean	Std Deviation	Independent Sample t-test	95% CI	
						Lower	Upper
Pre-procedural Trait Anxiety	TSB	48	36.44	10.173	*P = 0.117*	-6.426	0.730
	TCB	49	39.29	7.385			
Post-procedural State Anxiety	TSB	48	46.65	12.630	*P = 0.000**	6.744	15.936
	TCB	49	35.31	10.050			

*P-value <0.05

No significant difference in baseline trait anxiety existed between groups (transcutaneous group mean score = 39.24, SD = 7.385; conventional group mean score = 36.44, SD = 10.173; p > 0.05). Transcutaneous bilirubinometer group exhibited significantly lower state anxiety (mean score = 35.31, SD = 10.05) compared to conventional blood-taking group (mean score = 46.65, SD = 12.63; p = 0.000).

Table 2 The number of clinically significant anxiety levels (score ≥ 45) between the conventional blood-taking (TSB) group and the transcutaneous bilirubinometer (TCB) group.

	Procedure	**STAI Score <45**	**STAI Score ≥45**	**Total**	**Chi Square (X^2)**
Pre-procedural Trait Anxiety	TSB	38	10	48	P = 0.760
	TCB	40	9	49	
Post-procedural State Anxiety	TSB	24	24	48	P = 0.005*
	TCB	38	11	49	

Clinically significant state anxiety was more prevalent in parents from the conventional blood- taking group (50%) than the transcutaneous bilirubinometer group (22.4%; p = 0.005).

Conclusion: The transcutaneous bilirubinometer did not only reduced state anxiety compared to conventional blood-taking but also diminished clinically significant parental anxiety during neonatal jaundice screening. Thus, the transcutaneous bilirubinometer is a superior screening tool when concerned with parental anxiety especially in the ED setting.

205

FROM ARRIVAL TO DISCHARGE: A STUDY ON THE VARIABLES AFFECTING LENGTH OF STAY IN EMERGENCY DEPARTMENTS.

Tg Mohamad Iskandar Tg Mohamad Rosman[1], Noraziani Khamis[1], Diana Yeo Ing Tieng[1], Nor Hanizah Abdul Gapal[1], Kavitha Jetly Jagjit Kumar Jetly[1], Fairuz Nadiah Nordin[1]

[1]*Institute for Health Management, National Institutes of Health, Shah Alam, Selangor*

Introduction: The length of stay (LOS) in the emergency room is a critical performance measure for treatment effectiveness and quality.

The yellow zone in the emergency department (ED) is the semi-critical zone with the longest patient waiting time compared to other zones.

Prolonged (LOS) leads to reduced quality of care and exposure to a higher mortality risk for patients, putting additional strain on the ED staff and increasing the ED's operating costs.

Objective: This study aims to compare the trend of median and prolonged LOS in the first six months of 2022 and 2023 in the yellow zone ED Serdang Hospital and,

Association between sociodemographic, clinical, patient presentation, and organizational factors and prolonged LOS from January to June 2023.

Methodology: The study employed a retrospective approach to examine 422 randomly selected attendees of the Yellow Zone in 2023 and 417 in 2022. Data were collected from Hospital Serdang's Hospital Information System (HIS). Descriptive, univariate, and bivariate analyses were conducted using SPSS version 26.

Result: The results demonstrated an improvement in the trend of the attendees in the yellow zone observed within the anticipated time frame (2 hours). In 2023, compared to 2022, there was a 4% reduction from 97% to 93%. The median LOS for yellow zone attendees in 2023 was 5.68 hours.

There was a significant relationship between patients' number of comorbidities and organizational factors, which included the presence of medical officer shift changes, the presence of nurse shift changes, the number of discipline-providing consultations, the number of blood tests, and the number of radiological images with the prolong LOS in the yellow zone.

Discussion And Conclusion: This study found that organizational factors are essential in ED overcrowding. Standardizing diagnostic flow, establishing specific holding areas, and improving coordination and communication collectively may reduce the LOS in the ED, enhancing overall patient flow and care quality. This study could be the foundation for future studies focusing on ED management in overcoming overcrowding.

Keyword: Overcrowding, emergency department, length of stay

206

INNOVATIVE SOLUTIONS TO IMPROVE EMERGENCY DEPARTMENT OVERCROWDING IN MALAYSIAN MINISTRY OF HEALTH HOSPITALS

Muniamal Krishnan[1], Ku Anis Shazura bt Indera Putera[1], Zalina binti Libasin[1], Nur Jihan binti Noris[1], Nur Nadia Renu binti Abdullah[1], Intan Syafinaz binti Saman @ Saimy[1]

[1]*Institute for Health Management, National Institutes of Health, Setia Alam,40170 Shah Alam, Selangor*

Introduction: An Emergency Department (ED) is a front door for a hospital where huge number of patients visit the department in order to access immediate treatment. By providing 24-hours non-stop service throughout the year, it is considered the busiest department compared to other departments available in the hospital.

Objective: To describe the overcrowding strategies implemented by the ED at state, major specialist, minor specialist, and district hospitals under the Ministry of Health (MOH) Malaysia in order to address overcrowding.

Methods: The sampling period for this cross-sectional study was October through November 2023. With the exception of special institutions, all 138 public hospitals under the MOH completed a self-administered checklist in order to document the overcrowding management strategies used by the ED. Based on Asplin et al (2003)'s ED crowding model, each strategy was then mapped into the input, throughput, and output components.

Results: For input component, the redirection policy strategy was implemented by 42.8% of state hospitals followed by major specialist hospital at 25%. On the other hand, step up admission under the cluster hospital initiative was also a favoured solution with 42.8% of major specialist hospital implementing it followed by 21.4% of state hospital. As for throughput component, all types of hospitals used bed watcher system to monitor the status of patient at ED. 42.9% of major specialist hospital implement bed watcher system, followed by 28.6% of state hospital, 14.7% of district hospital and 9.56% of minor specialist hospital. For bed manager strategy under the output component, with 71.4% for both state hospital and major specialist hospital, 42.9% from minor specialist hospital and 33.3% of district hospital implementing this, this is the most popular strategy throughout all components, followed by Discharge Lounge/Bay.

Conclusion: Strategies based on output component such as discharge lounge, and bed manager were the most popular strategy overall and were implemented by all types of hospitals while strategies in the input and throughput components were not as favoured. Hence it is recommended that hospitals broaden their attention to address all three components in their effort to overcome overcrowding at ED.

Keywords: Emergency Department, overcrowding, strategies

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

207

CREATING A LOW-COST, REALISTIC AND SUSTAINABLE CHEST TUBE MODEL

Muhammad Ashyraf[1], A. Zulali[1], KK. Gan[1], M. Mohd Amin[1]

[1]*Emergency And Trauma Department, Hospital Sultanah Aminah, Johor Bahru, Malaysia*

Introduction: Chest tube insertion is vital in emergency thoracic care. Numbers of research conducted have explored the effectiveness of regular training programs focusing on chest tube insertion technique. Due to demand for emergency medicine curriculum, incorporation of simulation based training and hands on workshop are required for safe procedure and patients' outcome.

Objectives: Creating a chest tube model that can works on skill development, sustainable, real like living model and cost effective

Equipment:

1. Half body manikin
2. Rib cage 3d printed
3. Sponge
4. Thin sponge with thin filament
5. EVA foam
6. Gaffer tape
7. Masking tape

Technique:

1. Line the rib cage with gaffer tape.
2. Shape the sponge like a lung and stick it inside the chest wall.
3. Tape the outer rib cage where you will puncture.
4. Put a plastic bag in one side for pneumothorax.
5. Wrap thin sponge around the rib cage as chest wall muscle.
6. Place the rib cage in the manikin, removing one area at side.
7. Make a chest pad with sponge and foam, attach to mimic skin and subcutaneous.
8. Your model is set for training

Results: Each training session can accommodate up to 40 participants using one model. Feedback highlights its reusability, human-like design, and versatility for comprehensive skill development.

Cost:

- Half body manikin RM 0
- rib cage 3D model RM 100
- Thin sponge with filament RM20
- Gaffer tape RM 25
- Masking tape RM10
- EVA foam RM15
- Sponge RM30

Estimated for one model is around RM 200

Conclusion: This model helps trainee improve their skills and regular practice is accessible. Its real feel like and durability make training sessions successful and can accommodate many participants at one time. This cost effective and easy to recreate model helps other institution to create their own model for emergency thoracic training.

Keywords: chest tube, 3D model, innovation

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

208

GLOBAL PERSPECTIVE ON OVERCROWDING: MALAYSIA'S STRATEGIES IN FOCUS

Ku Anis Shazura Indera Putera[1], Muniamal Krishnan[1], Nur Jihan Noris[1], Lum Kah Yee[1], Nur Nadia Renu[1], Intan Syafinaz Saman@Saimy[1]

[1]*Institute for Health Management, National Institutes of Health, Setia Alam, Selangor, Malaysia*

Introduction: Overcrowding in emergency department (ED) can lead to multiple negative effects such as long waiting time, patients leaving without treatment, medical errors, and poor patient outcomes. Despite the efforts made to reduce waiting times, the overcrowding problem has remained unresolved. A wide range of strategies have been suggested by various parties to overcome ED overcrowding globally. Little is known of the implementation of these strategies in Malaysia since there is lack of comprehensive report on strategies used in Ministry of Health (MOH) hospitals.

Objectives: The aim of this study is to describe the strategies used to tackle overcrowding at ED globally compared to MOH hospitals.

Methodology: This is a cross-sectional study design, divided into two sections. The first section is a scoping review of global strategies implemented in ED to address overcrowding. The second section involves a self-administered checklist completed by all 138 public hospitals under the MOH (excluding special institutions), documenting the strategies their EDs use to manage overcrowding. The data was collected from October 2023 to February 2024. Descriptive and thematic analyses were conducted to interpret the findings. The strategies were further mapped according to the ED crowding model by Asplin et al (2003) comprises of three components: input, throughput, and output.

Result: Findings from the scoping review indicate that the majority of strategies fall under the throughput component (61.7%), followed by output (22.8%) and input (15.5%). Contrarily, output strategies are more prominent in MOH, accounting for 46.4%, followed by throughput (37.3%) and input (16.3%).

Conclusion: Most of the strategies implemented globally focus on the throughput component within the ED, while in MOH, most of the hospitals emphasise on improving the output component. This may be influenced by MOH's focus on reducing bed waiting time which falls under the output component; hence, much more effort was made in this specific component as compared to others. As a recommendation, it is suggested that the MOH addresses all three components in determining strategies for the EDs, thereby ensuring a smoother patient flow, and improving overall service delivery.

Keywords: emergency department, overcrowding, strategies

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

209

THE EFFECTIVENESS OF CPR TRAINING TAUGHT BY STUDENT INSTRUCTORS USING VIDEO INSTRUCTION IN SCHOOLS - A PILOT STUDY

Mahadiptijeet[1], Teo Rui Han[2], Vivian June Lang[2], Kwanhathai Darin Wong[1], Teo Aik Howe[1].

[1] *Emergency and Trauma Department, Hospital Pulau Pinang*

[2] *Year12 International Baccalaureate Diploma Programme*

Introduction: Higher rates of cardiopulmonary resuscitation (CPR) performed by members of the public has always been the cornerstone to improve survival from out of hospital cardiac arrest (OHCA). One measure that has shown to have long term impact on increasing CPR rates is teaching CPR in schools.

Objective: To facilitate implementation of CPR training as an integral part of school education, using video instructions and minimally trained student instructors.

Methodology: 16 student instructors were given Basic Life Support (BLS) booklets to read in advance. 2 trained CPR instructors (Emergency Physicians) taught and showed video instructions on performing CPR using the qCPR app on mannequins. Four days later, the student instructors using the same video learning and qCPR app mannequins, facilitated learning and practice of chest compressions for 61, 13 year olds with no previous CPR training.

The students were then assessed on their effectiveness of CPR; using the qCPR app score as an independent assessment method. There were two groups - control group that was allowed to view the live feedback quality of CPR; the study group were assessed by performing chest compressions without live feedback

Results: In the control group, mean qCPR score ± SD was 96.83 (± 4.92), mean depth of compression ± SD was 92 (± 10.20), and total compressions/minute ± SD was 115.33 (± 5.96), and release ± SD was 99.67 (± 0.82). In the study, mean qCPR score ± SD was 90.86 (± 12.82), mean depth of compression ± SD was 89.12 (± 21.56), and total compressions/minute was ± SD 118.12 (± 10.17), and release ± SD was 97.69 (± 14.11). In the written questionnaire, more than 70% of participants reported having a positive impression (Likert Scale 1-2) of the training. 48% reported having an increased willingness to learn CPR than previously.

Conclusion: In both groups, CPR performance is high with mean scores above 90%. The qCPR control group achieved an overall higher rate indicating that qCPR feedback is an effective training, practice, and assessment tool in CPR training.

Keyword: qCPR, student instructors, CPR

210

STRATEGIES FOR MANAGING OVERCROWDING IN EMERGENCY DEPARTMENTS: METHODOLOGY AND APPROACH IMPLEMENTED BY THE MINISTRY OF HEALTH MALAYSIA

Natasya Nur Mohd Nasir[1], Ku Anis Shazura Indera Putera[1], Zalina Libasin[1], Nur Jihan Noris[1], Lum Kah Yee[1] & Intan Syafinaz Saman @Saimy[1]

[1]Centre of Organisational Excellence Development (COED), Institute for Health Management, National Institutes of Health, Setia Alam, Malaysia

Introduction: Emergency department (ED) overcrowding (OC) has been a persistent global issue for over a decade with Malaysia among the nations impacted. Hence the Ministry of Health (MOH) Malaysia has implemented diverse strategies to manage OC.

Objectives: The aim of this study is to investigate the strategies employed by MOH hospitals in Malaysia to address the issue of OC.

Methods: This cross-sectional study was conducted in year 2023, utilising a universal sample comprising of all MOH hospitals with ED. Data was collected via a self-administered checklist that was distributed by state's liaison officer (LO) to the LOs at hospital level. Data was analysed using thematic analysis and mapped according to the conceptual model of ED crowding by Asplin & Brent R. et al (2003) that categorises ED processes under "input", "throughput" and "output" components.

Results: All 138 public hospitals under the MOH were involved in this study. The thematic analysis of the strategies revealed six domains under the input component, seven domains under throughput, and nine domains under output, resulting in a total of 22 domains and 42 subdomains. With 18 subdomains, the output domain boasted the largest number of subdomains. Under the output component, bed management unit was the most frequently employed strategy, followed by discharge lounge and stepdown under the cluster hospital initiative. The throughput component ranked second in usage, with visual management, ED process, and audit and monitoring emerging as the top three most utilized strategies. Lastly was the strategies under the input component, in which redirection policy, step-up admission under cluster hospital, and direct admission were among the most commonly employed strategies.

Conclusion: Strategies under the output component were the most used strategies compared to strategies from the other components. This is most probably due to the output component housing strategies that are policy-driven, and based on the national guideline. The decision to choose and implement strategies either from the input, throughput, or output components varies across hospitals, as each hospital selects its strategies based on its distinct management approaches. Nevertheless, it is recommended that all hospitals consider these components in implementing their strategies to ensure a holistic approach to addressing the issue of overcrowding.

Keywords: emergency department, strategy, overcrowding

211

ENHANCING MEDICATION SAFETY: INSIGHTS FROM A PROSPECTIVE AUDIT AT SARAWAK GENERAL HOSPITAL

Mohd Amirulikhmar Jamalludin[1], Mohd Zaim Abdullah Zawawi[1], Syairon Nurain Ahmad[1], Mohd Hatif Kamail[1], Vanitha A/P Kandasamy[1]

[1]*Emergency Department, Sarawak General Hospital, Kuching, Sarawak, Malaysia*

Introduction: Ensuring medication safety in the Emergency Department (ED) is of paramount importance to prevent adverse outcomes, which may contribute to patient mortality and morbidity. This study aimed to assess medication administration practices and identify areas for improvement in providing health services.

Objectives:

To identify medication errors incident.

To assess compliance to safe medication administration practices among healthcare workers across different zones in the ED.

To identify factors associated with non-compliance to safe medication administration and develop specific and practicable interventions.

Methods: Over the course of two weeks in April 2024, a prospective audit was conducted, observing 100 occasions of medication administration by assistant medical officers (AMOs), nurses, and doctors across different zones in the ED. A single-blind randomization through convenient sampling without interventions was employed and compliance to practices related to medication safety was assessed according to medication safety checklist. Between-group analysis was conducted using Pearson Chi-Square with crosstabulation, and p-value of < 0.05 was taken as statistically significant.

Results: The audit revealed no medication error incident occurring within the time frame period. However, analysis uncovered key areas of non-compliance: verification of patient's allergies (40%), setting up medication cart or dishes (36%), counterchecking by another staff (31%), and preparation of medication in front of patients (17%). AMOs notably lacked medication counterchecks (18%, $p = 0.014$). The red zone exhibited the highest non- compliance rates in setting up medication cart or dishes (27%, $p < 0.001$), counterchecking by another staff (13%, $p = 0.03$), and verification of patient's allergies (28%, $p = 0.002$).

Conclusion: This audit identifies critical areas of non-compliance of medication safety in ED. Contributing factors include communication gap among healthcare providers and workload pressures, especially in high-risk situation involving high-risk patient in red zone. Strategies to mitigate inherent risk should prioritize in bridging the knowledge gap on medication preparation and administration, improving healthcare providers' awareness on medication safety and errors through Continuing Medical Education (CME) and optimising staff numbers in high-stress zones.

Keywords: Medication safety audit, medication administration, compliance

212

IMPACT OF IMPLEMENTING COMBINED TRIAGE IN THE EMERGENCY DEPARTMENT AT DISTRICT HOSPITAL

Ili Nabihah Maskuri[1], Chia Boon Yang[1], Azhana Apandi[1]

[1]*Emergency and Trauma Department, Hospital Cyberjaya*

Introduction: Triage is the first screening step for all patients who present to the emergency department (ED). It plays a vital role because it helps identify and categorize patients based on their level of urgency of care, thus prioritizing those life-threatening patients for immediate and appropriate treatment.

Objectives: To investigate the impact of combined triage on patients in the emergency department at the district hospital.

Methods: A pre- and post-interventional study was conducted at the emergency department of Hospital Cyberjaya, a district hospital in Selangor. This study involves two different stages: a separated primary-secondary triage and a combination of primary-secondary triage. The study was carried out in 1 week of duration for each triage, and the data were collected from the green zone. The outcome of the study is the difference duration of time from the arrival at triage to the registration of the patient at ED.

Results: There were 473 685 patients in separated of primary-secondary triage (per- intervention) and 685 patients in combination triage (post-intervention) recruited for data analysis. The result showed that the mean duration of time from the arrival at triage to the registration of patients at ED in combined triage is lower than in separated triage.

Conclusion: Based on the data, combined triage in the emergency department of our district hospital has reduced the duration of time from the arrival at triage to the registration of patients at ED, hence, it also helps in reducing the waiting time in green zone.

Therefore, this study shows a better performance in managing patients at an earlier level.

Keywords: Combined triage, district hospital, emergency

213

THE EVOLUTION OF FBC TESTING: ENHANCING ED PERFORMANCE

Lim Wen Tzien[1], Ian Tey Zhe Yuan[1], Nor Khatijah Ahmad[1]
1Emergency Department, Selayang Hospital, Selangor, Malaysia

Introduction: Full blood count (FBC) is crucial in the Emergency Department (ED). Despite nearly a decade of available Point-of-Care Testing (POCT), many doctors prefer sending FBC requests to the pathology lab, causing delays of several hours due to manual processing in Selayang Hospital. This practice incurs additional costs and delays due to manual delivery, whereas POCT FBC results are available in just 2 minutes.

Objectives: To streamline FBC testing process in ED and reduce duplicate orders sent to the pathology laboratory.

Methods: We have conducted an interdepartmental collaborative quality improvement project to reduce FBC orders sent to the lab. As a start, We conducted retrospective audit on the monthly FBC orders sent to the lab from all ED zones, covering all demographics in 2023. Utilizing the Ishikawa diagram, we managed to identify factors leading to high FBC orders to lab. To address them, we started off by producing a departmental blood investigations guidance that was agreed upon by the ED and Pathology department, which outlines conditions where FBC should be sent to the lab instead of doing a POCT. These indications includes: unexplained bi/pancytopaenia and when differential counts were not generated.

To ensure accuracy of POCT FBC results, arrangements were made with the pathology department for internal and external validation of the analyser.

We have procured an additional FBC analyser, bringing the total to two machines in ED to enable easy access to them from all zones.

As the re-audit revealed inadequate adherence to investigation guidelines, we included the blood investigation guidance in the house officer orientation program. Other doctors and staffs also received regular reminders and training. The Blood Investigation Guidance Posters were displayed in all clinical zones as reminders.

Results: Before the project, the average monthly FBC requests sent to the lab were 2181. Initial changes reduced this average to 1032 per month. With continued reinforcement and reminders, the average further decreased to 431 per month.

Conclusion: This project successfully minimized the need to send FBC samples to the pathology lab, easing the burden on medical staff, reducing hospital costs, and shortening patient length of stay

Keywords: POCT, FBC, audits

214

SIMPLIFYING AND IMPROVING ED STAFF SCHEDULING USING LINEAR PROGRAMMING ANALYSIS; A MULTI PRONGED APPROACH.

Abdul Khalid Salleh[1], Mohd Hafis Mohamed Sakan[1], Rabiha Mohd Alip[1]
1Emergency and Trauma Department, Hospital Melaka, Melaka, Malaysia

Abstract

ED staff scheduling is a pandora's box of headaches, complexities, potential interpersonal conflicts all of which may result to suboptimal patient care. The best equipment, departmental guidelines, KPIs and targets would mean to nothing if there are no personnel to carry them out. Doctors, rarely trained in organisational management methods, would previously spend hours manually transcribing, arranging and haggling to draw up the weekly staffing schedule. This presents an issue when the previous schedule maker passes over the baton of Scheduler-in-chief to a junior member with potential short deadlines whilst also juggling daily clinical duties.

This paper outlines the development of a system to simplify the staff scheduling problem by employing methods normally used in other industries by operations trained HR. This was achieved by using computational analysis, Excel formulas, self filled leave requests on online platforms all of which governed by a baseline calculated by a simplex linear programming algorithm to calculate minimum staff requirements which take into consideration fairness of staff working hours, seniority and staff skill levels while also balancing work-life balance of the staff involved and the avoidance of potential staff burnout.

All of this resulted in an online based staff schedule system currently employed at ED Hospital Melaka which is not only sensitive to staff leave requests but also preserves minimal numbers for the functional operation of the department.

The adaptation of this multi pronged strategy of linear programming to calculate and optimise numbers, online platforms and computational analysis shows that scheduling can be made easier, can be made to adapt faster to fluctuating patient levels and can lead to a reduction in complexity and time spent during the process of week to week scheduling

Keywords: Scheduling Linear Programming

215

OUTCOME OF PREHOSPITAL TRAUMA CARE FOR ROAD TRAFFIC INJURY IN MALAYSIA

Mohd Zaki Fadzil Senek[1,2], Khairul Nizam Mohamad[3], Nik Hisamuddin Nik Ab Rahman[4,5], Sabariah Faizah Jamaluddin[6], Sang Do Shin[1].

[1]*Laboratory of Emergency Medical Services, Seoul National University Hospital, Korea.*

[2]*Emergency and Trauma Department, Hospital Sultanah Nur Zahirah Kuala Terengganu, Terengganu, Malaysia*

[3]*Emergency and Trauma Department, Hospital Tengku Ampuan Afzan Kuantan, Pahang, Malaysia*

[4]*School of Medical Sciences, Health Campus, USM, Kubang Kerian, Kelantan, Malaysia*

[5]*Hospital USM, Health Campus, USM, Kubang Kerian, Kelantan, Malaysia*

[6]*Faculty of Medicine, Universiti Teknologi MARA, Sungai Buloh, Malaysia*

Introduction: This study attempted to increase scientific knowledge on impact of Pre-Hospital Trauma Care on patient outcome for road traffic injuries in Malaysia. We also investigate the association between patient outcome with onset of injuries to hospital arrival time (IAT).

Methods: This is a retrospective, cross sectional, observational study of trauma patients coming to Emergency and Trauma Department from January 1, 2016 to December 31, 2017 via ambulance service due to road traffic injuries, based on Pan Asian Trauma Outcome Study (PATOS) database. We then divided patients into two groups based on their onset of injury to hospital arrival time (IAT) exposure. The outcomes of this study were to look at functional recovery as Glasgow Outcome Scale (GOS) and survival of patients at hospital discharge.

Results: We identified 3884 adult road traffic injury patients based on stated inclusion criteria. After exclusion criteria, 1874 patient remained. Of these patients, 36.5% were later adolescence in the range of 20-29 years of age and predominantly male (n=1545, 82.4%). 1780 (95%) patients had minor disability but retained independent. The overall survival to discharge were 97.8%. The outcomes were not associated with IAT.

Conclusion: In this study, The survival rate from road traffic injury was high (97.8%) may due to improvement in prehospital trauma care. There was no significance different of outcome between patients arrived early to hospital and patients arrived later brought by ambulance.

Keywords; Road Traffic Injuries, Pre-Hospital Time, Trauma Care

216

IMPROVING SKILLS IN PERFORMING BASIC ECHOCARDIOGRAPHY AND FOCUSED ASSESSMENT WITH SONOGRAPHY IN TRAUMA (FAST) AMONG MEDICAL OFFICERS IN EMERGENCY DEPARTMENT

Muhamed Hadry Ahmad[1], Ranjini Sivaganabalan[1]

[1]*Emergency and Trauma Department, Hospital Shah Alam*

Introduction: Point-of-care ultrasound is a diagnostic tool that many emergency departments (ED) doctors utilize in their clinical practice to increase the accuracy of their diagnoses, especially during resuscitation of critically ill patients. Over the years, ultrasound has become a crucial component of emergency care and is a valuable technique that improves patient outcomes. Thus, emergency ultrasound training is necessary to guarantee medical officials can continue to be proficient in performing bedside critical care ultrasound and correctly interpreting images.

Objective: To determine the efficacy of training sessions by evaluating medical officers' skills and competency when performing bedside ultrasound.

Methods: The participants who were eligible and have fulfilled the inclusion criteria were enrolled in this study. At first, their baseline skills in performing bedside ultrasound were evaluated during their clinical duties at clinical zones. They were required to perform basic echocardiography and FAST scan on a patient that they attended. A set of check list were used to determine their performance ensuring vital steps are performed correctly. This phase is considered as pre-test assessment. Then, they were approached individually or in small groups to undergo bedside training in ultrasound. During this training, important points when performing ultrasound were highlighted to ensure correct techniques are practiced. Following this session, their skills were reevaluated in post- test phase using the same checklist used earlier.

Results: Total of 24 participants enrolled in this study. The total mean pre- and post-test score were 19.38 $\pm$ 5.11 and 31.38 $\pm$ 3.99, respectively. There was significant improvement in total mean score for ultrasound skills (Echo + FAST) with mean change score of +12.00 (effect size, $d = 2.76$, $p < 0.001$).

Conclusion: The ultrasound training is effective in improving skills in performing basic echocardiography and FAST scan among medical officers in ED. Regular training programs can be conducted to enhance clinicians' diagnostic confidence and ultimately improve patient's outcome.

Keywords: Echo, FAST, Training

217

INCIDENCE AND OUTCOMES OF BLOODSTREAM INFECTIONS IN COVID-19 PATIENTS RECEIVING ECMO SUPPORT: A RETROSPECTIVE STUDY FROM QATAR

Walid Kouidri[1], Asma'a AlMulla[1], Alaa Al-Qadhi[1], Nassima Zerouali[1], Abrar Abdelrahman[1], Latifa Alkhayyat[1]

[1]*College of Pharmacy, QU Health, Qatar University, P.O. Box 2713, Doha, Qatar*

Introduction: The COVID-19 pandemic has significantly increased the utilization of Extracorporeal Membrane Oxygenation (ECMO) for patients experiencing severe respiratory failure. Bloodstream infections (BSIs) are a major complication in this population, posing additional challenges to patient management and outcomes.

Objectives: To investigate the incidence, microbiological profile, and outcomes of BSIs in COVID-19 patients receiving ECMO support in Qatar.

Methods: A retrospective analysis was conducted on COVID-19 patients who received ECMO support in Intensive Care Units (ICU) across multiple hospitals in Qatar from March 2020 to December 2021. Patient demographics, clinical characteristics, ECMO parameters, microbiological data, and outcomes were collected and analyzed.

Results: Among the 54 COVID-19 patients on ECMO, 7 (13%) developed BSIs. Gram- negative bacteria were the predominant pathogens, with *Klebsiella pneumoniae* and *Escherichia Coli* bacteria being the most common. Gram-positive bacteria, primarily *Staphylococcus aureus*, and fungi, such as *Candida species*, were also identified. There were no significant differences in demographic and clinical characteristics, including age (P=0.99), gender (P=0.58), body mass index (BMI) (P=0.40), Acute Physiology and Chronic Health Evaluation (APACHE) II score (P=0.29), and presence of tracheostomy (P=0.99) between groups. Similarly, there were no significant differences in hospital length of stay (LOS) (P=0.41), ICU LOS (P=0.58), ECMO LOS (P=0.96), and duration of mechanical ventilation (P=0.71) between the two groups. Moreover, there were no significant differences in ECMO outcome (P=0.96), ICU discharge (P=0.45), and hospital discharge (P=0.22) between ECMO patients with and without BSIs in terms of survival status.

Conclusion: This study highlights the high incidence of BSIs in COVID-19 patients receiving ECMO support in Qatar, underscoring the need for stringent infection control measures and targeted antimicrobial therapies. Enhanced surveillance and tailored strategies are essential to mitigate the risk of BSIs in this vulnerable patient population.

Keywords: Bloodstream Infections; Extracorporeal Membrane Oxygenation; COVID-19.

218

A CLINICAL AUDIT ON THE IMPLEMENTATION OF THE TRAUMA ACTIVATION PROTOCOL IN A NON-LEAD HOSPITAL, HOSPITAL BUKIT MERTAJAM.

Goay Xiu Ting[1], Nur Amirah Hanis Suhaimi[1], Jared Ong Zinc Hong[1], Nurul Liyana Idrus[1], Amutha A/P Varatharajoo[1], Illiana Syahmun Mohd Razally[1]

[1]*Hospital Bukit Mertajam, Pulau Pinang, Malaysia*

Introduction: Trauma remains the leading cause of mortality and morbidity for younger generation in Malaysia. One of the key components in Malaysian Trauma Chain of Survival is the trauma team activation. By activating the trauma team, it enables a horizontal task to be assigned to each team to facilitate the treatment. Hospital Bukit Mertajam is a non-lead hospital and has implemented the trauma activation protocol for all the polytrauma patients. Our aim of this clinical audit is to evaluate the adherence to the target time of 90 minutes in trauma activation protocol for all the patients to be transferred out to the lead hospital.

Objectives: Our objectives for this audit are to improve the polytrauma patients' care at Emergency Department of Hospital Bukit Mertajam and to manage patients efficiently by adhering to Trauma Activation Protocol.

Methodology: This is a prospective study using data from Trauma Activation KPI Time Tracker Data from July 2022 until October 2023. Remedial measures were done in January 2023 onwards. Time based data collection from the registration of the polytrauma patient until the time of ambulance rolling to transfer out the patient to the lead hospital were analyzed using Microsoft Excel.

Results: Pre-remedial phase included a total of 21 cases in which only 1 case (4.8%) was able to be sent out to lead hospital within 90 minutes. In post-remedial phase, a total of 70 cases were recruited and 34 cases (48.5%) adhered to the KPI of 90 minutes.

Conclusion: Polytrauma management is a complex process which requires multidisciplinary team effort to ensure the patient receives the treatment within the right time and at the right hospital where the resources are available. Implementation of trauma activation protocol in Hospital Bukit Mertajam has the potential to improve the quality of patient's care.

Keywords: Trauma Activation

219

MANAGEMENT OF ACUTE ISCHAEMIC STROKE FOR INPATIENTS AT A NON-PRIMARY STROKE CENTER

Juliana Kadir[1], Siti Nordiana Ismail[1], Rajeena Selvi Karuppiah[1], Farina Mohd Salleh[2], Norizam Mois[3], Mohamed Fairudz Faisal[3], Abdul Ariff Shaparudin[4], Shanthi Viswanathan[5]

[1]*Nursing Division, Institut Jantung Negara, Kuala Lumpur, Malaysia*

[2]*Emergency Department, Institut Jantung Negara, Kuala Lumpur, Malaysia*

[3]*Imaging Centre, Institut Jantung Negara, Kuala Lumpur, Malaysia*

[4]*Cardiology Department, Institut Jantung Negara, Kuala Lumpur, Malaysia*

[5]*Neurology Department, Hospital Kuala Lumpur, Kuala Lumpur, Malaysia*

Introduction: Patients in Institut Jantung Negara are at high risk for ischaemic stroke due to similar risk profile with ischaemic heart disease. As a cardiac hospital, majority of patients are admitted for heart-related disease. However, data showed there were several patients who developed acute stroke during admission.

Objectives: Objectives of this study was to develop a process for management of acute ischaemic stroke for inpatients and to study the clinical outcomes.

Methods: A multidisciplinary team developed a new work process to manage inpatient acute ischaemic stroke with assistance from Neurology team, Hospital Kuala Lumpur. The process includes early identification of a possible stroke using BE FAST acronym, early activation of doctor and immediate CT brain by activation of a 'Stroke Code'. 'Stroke Code' activates the Radiographer and Radiologist for CT Brain, CT Angiogram, CT Perfusion with image interpretation. When intracranial bleed is ruled out, Neurology team is activated to review patients and determine treatment modality, either thrombolysis, thrombectomy or conservative. Data was collected from 1/10/2023 to 31/5/2024 on patient demographics, National Institutes of Health Stroke Score (NIHSS) score, risk factors and outcomes.

Results: 21 patients were included in the study. 62% (n=13) were male and 38% (n=8) were female. Age ranged from 33 years to 85 years, highest in the 61-70 age range. 11 patients developed symptoms after surgery or procedure where 9 were post Coronary Artery Bypass Graft (CABG), 1 post angiogram and 1 after pacemaker insertion. 8 out of 9 CABG patients had atrial fibrillation. Average time from Stroke Code activation to CT interpretation was 1 hour and 45 minutes. Out of 14 patients who had NIHSS, 6 scored 0- 4 (minor stroke), 6 scored 5-15 (moderate stroke) and 2 scored over 15 (moderate to severe stroke). 2 patients received thrombolysis within 4.5 hours of stroke onset and survived to discharge, both with Cerebral Performance Category 3. Only 1 patient died during admission.

Conclusion: Having a process for Acute Stroke management for inpatients in a non-neurology hospital has benefits for at risk patients. Thrombolysis is a viable option for patients who fulfil treatment requirements with good outcomes.

Keywords: Stroke, thrombolysis, NIHSS

220

EPIDEMIOLOGY OF PAEDIATRIC TRAUMA IN MALAYSIA: A MULTICENTER STUDY

Hani Yasmin Yahaya[1], Muhammad Nur Azmi Baharuddin[2], Sabariah Faizah Jamaluddin[2], Muhammad Zulhilmi Abu Bakar[2], Nadiah Sa'at[3]

[1]*Department of Emergency Medicine, Hospital Al-Sultan Abdullah Universiti Teknologi MARA (UiTM), Puncak Alam, Malaysia*

[2]*Department of Emergency Medicine, Faculty of Medicine, Universiti Teknologi MARA (UiTM), Sungai Buloh, Malaysia*

[3]*Biostastics and Research Methodology Unit, School of Medical Sciences, University Science Malaysia (USM), Kubang Kerian, Malaysia*

Paediatric trauma remains a regrettable source of premature death and disability worldwide. There are limited studies on the epidemiology of trauma among children in Malaysia. This study aimed to describe the epidemiological characteristics of paediatric trauma in Malaysia. This is a retrospective, multicenter study of trauma across participating centers in the Pan Asian Trauma Outcome Study (PATOS) registry, which included trauma cases aged less than 18 years from 2018 to 2022 in Malaysia. Information on demographics, injury epidemiology, and injury severity scores (ISS) were collected. A total of 3303 patients were included in the study. Most patients were in the adolescent age group (13-18 years, 78.7%), followed by school age (6-12 years, 12.4%) and preschool age (0-5 years, 8.9%) with median age of 16 years. The female-to-male ratio was 1: 3.56. The overall mortality rate was 1.1%, with traumatic brain injury as the highest cause of death. Mortality rate was highest in the adolescent age group compared to other age groups. The leading cause of injury across all age groups was accidental injury (98.2%), in which blunt trauma is the most common (98.8%). The most frequent location of injury was extremities (66.5%). 40.2% of patients have multiple injuries (2 or more injuries). Travelling was the most common mode of injury (46.5%), followed by sports activities (16.7%). Most injuries occur on the streets (83.2%), followed by residential areas (8.4%) and schools (4.1%). 34.5% of the patients required admission, and 10.9% were admitted to the intensive care unit. The overall median ISS was 4. The study provides an overview of the epidemiological characteristics of paediatric trauma in Malaysia. These findings point to potential risk factors that could be targeted for future injury prevention programs.

Keywords: Paediatric trauma, Trauma, Epidemiology

221

CHARTING SUCCESS: EMERGEN-SYNC'S INFLUENCE ON HOSPITAL-PATIENT RELATIONS INTRODUCTION

Thayaharan Subramaniam[1], Laily Noor Zuliaty Anuar[1], Nur Suriana Miswan[1], Janis Lim Jun June[1], Shabila Wahab[1], Melinda Rozario[1]

[1]*Gleneagles Hospital Kuala Lumpur, Kuala Lumpur, Malaysia*

As a tertiary private hospital in Kuala Lumpur, Gleneagles Hospital recognizes the significance of patient feedback in delivering optimal care Measuring patient feedback, particularly regarding prehospital care experiences, is critical for hospitals as it offers vital insights into the effectiveness of emergency services and helps identify areas for enhancement. This feedback not only improves the quality of care delivered but also fosters transparency and trust between healthcare providers and patients, ensuring a seamless continuum of care from the moment of emergency to hospital admission.

Method: To enhance service quality, the emergency department identified the need to prioritize patient feedback, particularly from pre-hospital encounters. The implementation of Emergen-Sync, following a successful pilot study in 2023 and its official launch on February 24, 2024, offered a novel approach to gauge customer satisfaction.

Results: Data collected from January to May 2024 revealed feedback from 91 patients, primarily through ratings of 1 to 5. A comprehensive satisfaction survey is planned for patients who rate 3 or below. Notably, patients overwhelmingly rated the service with 4 or 5 stars, attributing the SMS link's utility in providing logistical information and ambulance usage details. Details shared are parameters such as estimated time of arrival, progress of transfer, staffs involved and completion of transfer. A second text is send to measure caller’s experience once the patient transfer is complete. This transparency enhanced patients' appreciation for pre-hospital care and treatment planning.

Discussion: Patient feedback is essential for Gleneagles Kuala Lumpur, guiding perceptions of service quality and influencing reimbursement models. With patients' singular interactions, the hospital must prioritize professionalism, response capacity, and transport conditions.

Feedback serves as a metric to showcase Gleneagles Kuala Lumpur's value to communities, crucial amid heightened scrutiny. As payment models shift, patient perceptions may become pivotal, underscoring the importance of measuring various aspects of hospital encounters for continuous improvement and financial sustainability.

Conclusion: The implementation of Emergen-Sync for measuring customer satisfaction in Gleneagles Hospital Kuala Lumpur's Emergency Department has yielded positive results. Leveraging an SMS link has facilitated communication, providing patients with vital information and improving their overall experience. This innovative approach reinforces the hospital's dedication to exceptional healthcare delivery.

222

DATA-DRIVEN CARE: UNVEILING GLENEAGLES KUALA LUMPUR EMERGEN-SYNC'S TRIUMPH

Thayaharan Subramaniam[1], Laily Noor Zuliaty Anuar[1], Nur Suriana Miswan[1], Janis Lim Jun June[1], Melinda Rozario[1], Shabila binti Wahab[1]
1Gleneagles Hospital Kuala Lumpur, Kuala Lumpur, Malaysia

Introduction: Gleneagles Kuala Lumpur Emergency Department services an average of 58000 patients per year for the last 5 years. The launch of the *Emergen-Sync* initiative in February 2024 by Gleneagles Kuala Lumpur has heralded a transformative era in Emergency Medical Services (EMS) within Malaysia.

This initiative addresses crucial needs such as standardized datasets, reliable data transmission, integrated information systems, and feedback provision to prehospital providers, all of which are vital for optimizing emergency healthcare.

Results: Presented here is the data collected from October 2023 to March 2024, focusing on key performance indicators (KPIs) including the completeness of patient details, chief complaints, preliminary diagnoses, and AMPLE history. Leveraging the PERTAMA platform, notable achievements have been realized. Notably, there has been a consistent uptrend in compliance rates, with the past three months achieving a commendable 100% target attainment.

Discussion: The implementation of Emergen-Sync has markedly enhanced patient care through real-time access to patient information and standardization of data collection. Significant time savings in documentation have been observed, facilitated by the replicability of information via Electronic Patient Care Reports (EPCR). These time efficiencies have been reinvested into critical tasks such as care coordination, communication with hospital staff, and expediting emergency responses, thereby enhancing overall effectiveness.

Utilizing the PERTAMA platform as a data-driven tool for quality improvement has yielded tangible enhancements in KPIs throughout the study period. Emergen-Sync, designed to streamline workflows, enhance record-keeping, and optimize daily operations, has yielded tangible benefits for patients and healthcare providers alike.

Conclusion: In summary, the Emergen-Sync initiative represents a pivotal advancement in Malaysia's EMS landscape, characterized by improved efficiency, enhanced data management, and ultimately, better patient outcomes.

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

223

MORTALITY OUTCOME OF TRAUMATIC THORACIC INJURY IN PAN-ASIAN COUNTRIES

Norzhafarina Hani[1], Afifah Sjamun Sjahid[1,2], Sabariah Faizah Jamaludin[3]

[1]*Pusat pengajian sains perubatan, Universiti Sains Malaysia, Kampus Kesihatan, Kelantan, Malaysia*

[2]*Hospital Universiti Sains Malaysia, Kelantan, Malaysia*

[3]*Universiti Teknologi MARA, Malaysia*

Introduction: Traumatic thoracic injury is one of the common presentations in Emergency Department. Understanding the epidemiology and contributing factor to mortality is important as traumatic thoracic injury is a preventable cause of mortality.

Objectives: This study was conducted to determine the prevalence, characteristic and predictors contributing to mortality of traumatic thoracic injury in pan-Asian countries.

Methods: This was a retrospective record review of Pan-Asian Trauma Outcome (PATOS) registry over 6 years period from October 2015 to December 2021. Records of 7733 patients who fulfilled the inclusion criteria were retrospectively reviewed. We analyzed the sociodemographic, mechanism of injury, associated extra-thoracic injury, injury severity score (ISS), vital sign at prehospital (PHC) and triage setting, length of intensive care unit (ICU) stays and 30-day mortality.

Results: The prevalence of traumatic thoracic injury was 13.4%. Male to female ratio was 2:1. Majority of the patients age were between 31 – 60 years old (50.2%). Traffic injury is the most common mechanism of injury (62.2%), followed by fall (26.3%). Only 24.1% of patients had pure thoracic injury. Common associated extra-thoracic injuries were head, lower and upper extremities, and abdominal injuries. About half of the patients had minor injury, ISS less than 9 (58.5%). 23.6% of the patients admitted to ICU. Mortality occurred in 156 patients (2%). Using the binary logistic regression analysis, 30-day mortality was significantly associated with age, presence of associated extra thoracic injury, ISS, length of ICU stays and vital signs at PHC and triage settings ($P<0.01$).

Conclusion: Age, presence of extra-thoracic injuries, severe trauma, length of ICU stays and vital sign at PHC and triage setting were found to be determinant of 30-day mortality in traumatic thoracic injury. Early recognition sign of shock, respiratory distress, presence of associated extra thoracic injury and severity of trauma is important for aggressive measurement and treatment of these group to improve outcome of traumatic thoracic injury.

Keywords: Injury severity score, thoracic injuries, Asia

224

ACUTE ISCHAEMIC STROKE RECOGNITION ACCURACY BY MEDICAL EMERGENCY COORDINATION CENTRE - AN EMERGENCY DEPARTMENT QUALITY MEASURES IMPROVEMENT (ARMED-QI)

Muhammad Ashraf Khairul Azmi[1], Siti Nur Aliyah Zambri[1], Chow Chee Toong[2], Noor Azleen Ayop[2]

[1]*Pusat Perubatan Universiti Malaya, Kuala Lumpur, Malaysia,*

[2]*Hospital Seberang Jaya, Pulau Pinang, Malaysia*

Introduction: Stroke is Malaysia third cause of death with Acute Ischaemic Stroke (AIS) the majority. Hyperacute stroke management leads to improved outcomes but begins with accurate Medical Emergency Coordination Centre (MECC) recognition. Utilisation of Pre-Hospital Stroke Scale Stroke Diagnostic Tool (PSS-SDT) by Emergency Medical Dispatchers (EMD) and Emergency Medical Responders (EMR) in MECC, and continuous medical education (CME) on its usage is recommended to improve AIS recognition.

Objectives: To measure MECC online stroke recognition accuracy with compliance to Medical Priority Dispatch System (MPDS) PSS-SDT and EMR on-field stroke recognition accuracy using Balance, Eyes, Face, Arms, Speech and Time (BEFAST) PSS-SDT. Effect of CME on MECC AIS recognition accuracy were also measured.

Methods: Prospective observational study conducted at Emergency and Trauma Department of Hospital Seberang Jaya (ETDHSJ) from January 2023 until December 2023 via cohort of Malaysian Emergency Response Service (MERS) 999 acute stroke activation. AIS recognition accuracy analysis for EMD and EMR with compliance to MPDS and BEFAST use were conducted in pre- intervention, post-intervention and overall period. Comparison made with final hospital diagnosis from Neuromedical Department as gold standard.

Results: ETDHSJ received 640 acute stroke activation cases with 192 via MERS 999 activation. 130 cases confirmed as AIS with 111 (85.3%) accurately recognised by MECC. EMR recorded better performance compared to EMD for overall sensitivity (91.8% vs 46.2%), Positive Predictive Value (PPV) (89.4% vs 84.5%), and accuracy (83.3% vs 46.4%). EMR BEFAST use recorded improved accurate diagnostic odd ratio (OR) with 6.8 (95% CI (1.172,30.29)) (p = 0.034) while EMD MPDS use recorded OR of 0.434 (95% CI (-4.488, 2.817)) (p = 0.654). Stroke CME intervention recorded improved diagnostic OR for both EMD (OR 1.104, 95% CI (0.821, 1.483)) (p = 0.515) and EMR (OR 2.690, 95% CI (1.495, 4.841)) (p < 0.001) during post-intervention period.

Conclusions: This ARMED-QI study demonstrates MOH design with 2-tiers MECC responders consisting both EMD and EMR ensures high diagnostic performance for AIS recognition. Utilisation of PSS-SDT by MECC increased diagnostic OR for accurate AIS recognition with CME on its usage resulted in improved diagnostic performance of the PSS-SDT.

Keywords: Medical emergency coordination centre, acute stroke, continuous medical education

Malaysian Journal of Emergency Medicine
Volume 6 (Supplementary 2) 2024
Emergency Medicine Annual Scientific (EMAS) 5-6th August 2024

225

RED CARD WARNING SYSTEM TO IMPROVE ADHERENCE OF PROPER USAGE OF SHARP BIN : A PILOT STUDY IN RESUSCITATION ZONE

Nor Marini Mohamed[1], Yamuna Segar[1], Alzamani Mohammad Idrose[1]

[1]*Hospital Kuala Lumpur, Kuala Lumpur, Malaysia*

Introduction: Emergency departments are very busy and the disposal of sharp instruments are often ignored by staff leading to failure of hospital quality audit. We device a method to improve this adherence by introducing a 'Red Card' Warning System in the resuscitation zone.

Methodology: A pre-intervention audit was implemented to determine the rate of proper sharp bin disposal. A 'Red Card' warning system was then introduced whereby, audit was performed in every shift. Upon failure, a 'Red Card' will be issued for the zone and every staff of the shift was required to pay a fine of RM1 before going home. On the other hand, if the shift 'passes' with complete sharp bin disposition, a 'Green card' will be issued and no fine needed to be paid. The money collected will be used for staff welfare. A post- intervention audit was then implemented. The difference of compliance rate was compared before and after implementation.

Results: Pre-intervention audit showed compliance rate of 42.9% and 21.4% in R1 and R2 respectively before intervention. The rate improved to 100% in both zones after the implementation of the system

Discussion: the warning and fine system appear to be effective. The amount charged in fine was very minimal, yet the compliance rate improved. This shows that it was not the amount but the effect of imparting money, even if small amount leaves effect of strong reminder to comply with hospital quality adherence.

Conclusion: The Red Card warning system is effective to improve adherence of sharp bin disposal. The system can be expanded to other zones to help with quality audit adherence.

226

CONFIDENCE LEVEL OF COMMUNITY NURSES OF NURSING CARE IN DISASTER

Nor Marini Mohamed[1], Alzamani Mohammad Idrose[1]

[1]*Hospital Kuala Lumpur, Kuala Lumpur, Malaysia*

Introduction: Community health clinics hardly handle disaster situation. There is currently limited data in terms of staff confidence to handle disaster. This study aims to assess the level of confidence among the nurses working in community health clinic in Kuala Lumpur.

Methodology: There are 801 community staff nurses in 27 government healt clinics. Questionairres were sent for them to respond. Questions on confidence to handle disaster were incorporated and the answers were based on Likert Scale between 1-5 (very unconfident to very confident)

Results: 260 nurses from 27 government community health clinics responded. The mean age of nurses is 34. 15 (7.13). 168 (64.6%) are female and 92 (35.4%) are males. The study found average score based on Likert Scale as follows:

- PPE in biological or chemical attack 3.89 (0.69)
- Decontamination in biological and chemical attack 3.48 (0.67)
- Familiarity in emergency response system 3.80 (0.64)
- Familairy with biological weapons symptoms and treatment 3.26 (0.71)
- Confident in ability 3.93 (0.58)
- Confident to be manager 3.70 (0.69)
- Confident to be in decontamination team 3.78 (0.62)
- Confident to manage patients in disaster independently 3.48 (0.85)

Discussion: The results show that the confidence level among community nurses to handle disaster is moderate. Community nurses do not deal emergency situations on daily basis. Thus, they lack the confidence in facing such situation. The nurses in surveyed group were also relatively young and thus did not have much experience in disaster.

Conclusion: Community nurses had average confidence in handling disaster. They need to have more exposure, education and training to handle disaster

227

OUTCOMES OF PROCEDURAL SEDATION AND ANALGESIA IN PAEDIATRIC EMERGENCY DEPARTMENT IN HOSPITAL TUNKU AZIZAH

Gan Chia Ling[1], Alzamani Mohammad Idrose[1], Mohd Zahir Amin[2], Yap Hsiao Ling[3]

[1] *Emergency and Trauma Department, Hospital Kuala Lumpur*

[2] *Emergency and Trauma Department, University Malaya Medical Centre*

[3] *Paediatric Emergency Department, Hospital Tunku Azizah*

Introduction: Paediatric patients frequently presented to the emergency department (ED) experiencing pain, fear, and anxiety stemming from acute injuries or illnesses. The unfamiliar setting, coupled with essential diagnostic procedures and interventions, can escalate their distress. Consequently, the implementation of procedural sedation and analgesia (PSA) within paediatric ED is imperative to mitigate these adverse experiences. Extensive prior research consistently demonstrates the safety and efficacy of PSA administration in paediatric populations in ED accompanied by close monitoring, anticipation of potential adverse events, precise medication selection and dosing, and adherence to strict PSA selection and discharge protocols.

Objectives: The objective of this study is to examine the outcomes of PSA conducted in paediatric only ED in Hospital Tunku Azizah (HTA), by determining the success rate of PSA, the rate of adverse events, and to identify association of adverse events and its risk factors.

Methodology: This study was a retrospective, single-center, descriptive analysis carried out in the paediatric ED of HTA, Kuala Lumpur. Complete enumeration method was used. Data of every PSA conducted from January 1st, 2020 to October 31st, 2020 were extracted from patient medical records.

Results: A total 280 cases were analysed in this study. This study found out that the success rate of paediatric PSA was 98.2%, vomiting is the most common adverse event which is 7.1%, others were urticaria (0.7%) and asymptomatic premature ventricular contractions (0.4%). There was no serious adverse event, significant intervention and unplanned hospitalizations. The ED revisit rate within 72 hours post PSA was 5.7%, all attributed to the complication of cast applied during the procedure. The most common medication used for paediatric PSA was intravenous ketamine 62.9% as a sole agent followed by a combination of intravenous ketamine and intravenous fentanyl (20.4%) subsequently intranasal fentanyl (4.6%). However, there was no statistically significant association of adverse events of PSA and its risk factors was found in this study.

Conclusion: With the findings of high success rates and low non sentinel adverse events, this study concluded that PSA conducted in paediatric ED of HTA was safe and effective.

Keywords: Paediatric Procedural Sedation and Analgesia, Paediatric Emergency Department

228

A PILOT STUDY ON THE UTILITY OF VIDEO LARYNGOSCOPY FOR EMERGENCY INTUBATION IN PAEDIATRIC POPULATION : SPECIALISTS VERSUS MEDICAL OFFICERS

Yap Hsiao Ling

Paediatric Emergency Department Hospital Tunku Azizah, Kuala Lumpur, Malaysia

Introduction: Although difficult airway situations are rare in pediatric emergency intubation, the differences in the paediatric airway anatomy and respiratory physiology contributing to challenges for the clinician. Video laryngoscope (VL) was first commercially introduced in 2001, and has since gained traction in paediatric intubation. In Malaysia, direct laryngoscopy remains the gold standard for intubation, while VL is used an alternative technique in paediatric difficult airway management in the operating rooms. During the COVID-19 pandemic, the Paediatric Intensive Care group of MOH Malaysia published an intubation protocol (2021) advocating the use of VL to minimize the transmission risk to the clinician intubating COVID-19 patients. Since 2020, the Paediatric Emergency Department (PED) of Hospital Tunku Azizah (HTA) started to change the emergency intubation practice to utilize VL due to the need to protect the healthcare providers from COVID-19 infections.

Objectives: To study the association of first attempt success rate, the difference of total intubation attempts between specialists and medical officers (MOs), and adverse events during emergency intubation using VL.

Methodology: This is a pilot retrospective observational study of emergency intubation of paediatric patients ranging from 0 - 18 years old in the PED HTA between January till June 2024. The primary outcome measured were the first pass success rate, number of attempts required and any adverse events.

Results: There were 58 emergency intubation events, 44 (75.8%) intubations utilized VL. Most of the intubations were performed by specialists (Specialists 27 vs MOs 17). The overall first pass success rate was 32/44 (72.7%, Specialist 17/27 vs MOs 15/17). 9 patients required 2 intubation attempts (Specialist 8/27 vs MOs 1/17) and 3 patients required 3 attempts (Specialists 2/27 vs MO 1/17). There were 13 adverse events recorded using VL (Specialists 9/13 vs MOs 4/13). The highest incidents are desaturations (8/13).

Conclusion: Trained MOs appeared to achieve higher first pass success in video-assisted laryngoscopy in emergency intubation in PED HTA with less adverse events. The outcome may be influenced by the MOs performed emergency intubation in selected cases with high probability of first pass success and will remain hemodynamically stable during intubation.

Keywords: Video laryngoscopy, Emergency Intubation, Paediatric**,** Paediatric Emergency Department

229

AN APPL A DAY KEEPS THE DOCTOR AWAY:

AN AUDIT INVESTIGATING THE ACCESSIBILITY OF AUTOMATED PERSONAL PATIENT LISTS IN A&E

Frederick Wyatt[1,2], James Peaty[1], Ashley Lockwood[1]

[1]*Northumbria Specialist Emergency Care Hospital Cramlington, Northumbria Way, Cramlington, NE23 6NZ*

[2]*Translational and Clinical Research Institute, Faculty of Medical Sciences, Newcastle University, Newcastle upon Tyne NE2 4HH, Tyne and Wear, United Kingdom*

Introduction: 16 million people attend A&E each year. It is therefore essential that the medical staff, employed within these busy clinical areas, are equipped with the necessary skills/tools to perform their clinical duties efficiently and to a high standard.

An "**Automated Personal Patient List**" (**APPL**) is an automatically generated digital list of all the patients, in a particular hospital location, under the care of a specific doctor. APPLs compile this information and present it alongside other clinically significant data, such as patient clinical acuity and management plans.

APPLs function as a digitalised shortcut, offering an efficiency-saving that has theoretical benefits to both workload organisation and clinical practice. The ideal standard is, therefore, for 100% of medical staff to feel confident in generating APPLs.

Objectives:

1. To evaluate the perceived clinical utility of APPLs amongst medical practitioners in A&E.
2. To audit the confidence/capability of medical staff in creating APPLs.
3. To successfully deliver an intervention that augments the confidence/capability of medical staff in generating APPLs.

Methods: Pre- & post-intervention questionnaires were distributed to FY1/FY2/trust-grade A&E doctors to gather data regarding the utility of APPLs and to assess the ability of medical staff in generating APPLs.

Intervention: an illustrated step-by-step guide, detailing how to construct APPLs, was created and distributed to the medical staff in A&E.

Results: 32 questionnaires were completed. 100% of respondents with APPLs believed that they benefited their workload organisation & clinical practice. Doctors found it significantly easier to access the clinical profiles of patients under their care using APPLs(9.7 ± 0.87) when compared to without (3.7 ± 1.5)($p<0.05$). Pre- to post-intervention, the proportion of doctors that were confident in generating APPLs increased from 12.5% to 94.4%($p<0.001$).

Conclusions: This audit provides an insight into the evident clinical and organisational benefits of APPLs; and highlights the efficacy of an illustrated guide as a means of enhancing medical staff confidence in creating these.

In busy clinical settings, simple yet effective interventions like these, should be identified and actively promoted. The cumulative effect of these changes, and their secondary benefits, holds the key to unlocking untapped potential within respective health services.

Keywords: Quality Improvement, Healthcare technology, Workflow