

## INTRODUCTION

High impact trauma patients presenting in shock will usually trigger one common obvious cause; bleeding. While shock in trauma typically arises from hemorrhagic causes, other types of shock should also be considered as they may occur concurrently.

## CASE DESCRIPTION

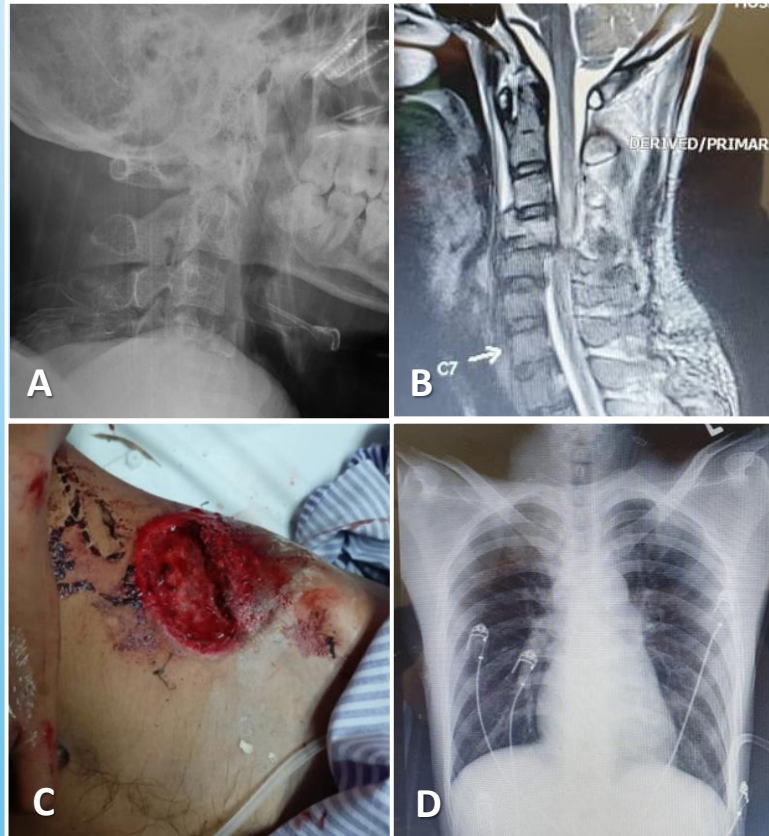
A 26-year-old male motorcyclist was involved in a high-impact motor vehicle accident and presented unconscious to a secondary hospital's emergency unit. During primary survey, blood pressure was hypotensive with reduced air entry over the left lung field. However, no hyper resonance on percussion was noted and the trachea was central. Needle thoracocentesis was immediately performed without gush of air or blood. Further assessment revealed a deep laceration wound over the left iliac fossa with active bleeding. Pelvic palpation was non tender, and no unstable pelvic fractures were suspected. Subsequently, he was persistently hypotensive and borderline bradycardic. The Glasgow Coma Scale (GCS) was 12 with unequal pupils. Subsequent primary and secondary survey adjuncts were done. Extended Focused Assessment Sonography in Trauma (E-FAST) was negative. Chest, pelvic and cervical x-rays were all concluded as clear.

He was resuscitated with crystalloids, given packed cell transfusion, started on inotropic support, and transferred to a tertiary hospital. Upon repeated primary survey at the tertiary hospital, patient was hemodynamically stable on inotropic support. Neurological examination later revealed no spinal deformity or tenderness; however, sensation and limbs power were significantly reduced. Following secondary survey revealed a missed C4 fracture on a cervical x-ray from prior care. CT head and spine were done which showed punctate bleed in the right parietal region, and C4 burst fracture with spinal canal displacement and retrolisthesis.

# TRAUMATIC AND SHOCKING:

## TACKLING SHOCK IN TRAUMA, BEYOND THE USUAL MANTRA

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A) Initial cervical x-ray done showing C4 burst fracture. B) MRI spine showing complete transection of the spinal cord at level C5. C) Deep laceration wound over left iliac fossa with possible intraabdominal injury. D) Chest x-ray showing no features of pneumothorax of haemothorax

### REFERENCES:

1. Anderson MW, Watson GA. Traumatic shock: the fifth shock. *J Trauma Nurs.* 2013 Jan-Mar;20(1):37-43.
2. Pepe, Paul E. "Shock in polytrauma." *BMJ (Clinical research ed.)* vol. 327,7424 (2003): 1119-20.
3. Trauma Life Support Malaysia (TLSM) Provider Manual, by Malaysian Society for The care Of Trauma (MASCOT), Version 1.0.22

## DISCUSSION

Shock is and immediate life-threatening condition characterized by circulatory failure with hypoperfusion that can result in cellular dysfunction and eventually death. In the setting of trauma, loss of circulating blood volume from severe hemorrhage is the most common cause of shock.

In this case, the patient experienced spinal and neurogenic shock. Upon assessment, initial suspicions included few different types of shock. First suspicion was obstructive shock from tension pneumothorax. However, patient exhibited no positive clinical signs of tension pneumothorax other than unilateral lung reduced air entry. Clinical identification of tension pneumothorax, aided by ultrasounds, is crucial in deciding appropriate acute interventions like a finger thoracostomy. Second suspicion was hemorrhagic shock from possible intraabdominal injury in view of deep abdominal laceration wound over the left iliac fossa. While fluid resuscitation and eventually blood transfusion is the mainstay treatment in an actively bleeding trauma patients presenting with shock, inappropriate blood transfusion may harm patients who do not need it.

## CONCLUSION

Managing shock in trauma is sometimes complex and challenging. It requires a rapid, systematic assessment to diagnose and manage the multifaceted nature of shock in trauma patients, including hypovolemic, distributive, obstructive, and cardiogenic. Both primary and secondary surveys are vital to be done systematically, along with their respective adjuncts. Physicians should rapidly be considering multiple possibilities of shocks that may be occurring simultaneously in trauma patients unresponsive to initial treatments.