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THE DEADLY MOUSEDEER:
VEHICULAR CARBON MONOXIDE
POISONING

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INTRODUCTION

Carbon monoxide exposure is potentially deadly and has been used in suicidal attempt. We present a case in which such poisoning occurred accidentally in a faulty car exhaust system.

CASE DESCRIPTION

A 43-year-old gentleman was found unresponsive in his car around noon. Passers-by alerted the ambulance. On paramedic assessment, he was unconscious with GCS of 11/15 (E3V3M5) and appeared flushed. The BP and heart rate were normal. Pulse oxymetry showed 100% under room air. Nevertheless, he was put on a high flow mask oxygen at 15L/min. His GCS became full on arrival to hospital but still groggy. He complained of lethargy, sleepiness and giddy for the last 3 days. He drives a Kancil (a compact car produced locally between 1994 and 2009 which name means 'mousedeer') and for the preceding 3 days has been driving car more than usual. He admitted smelling exhaust fume within the cabin. He also napped in the car twice in those days for half an hour each time. At the emergency department, vital signs were stable and the SPO2 was 99% with random blood sugar level of 10.7mmol/L. The arterial blood gas showed carboxyhemoglobin level of 46.5% (normal value for non-smokers < 3%, for smokers < 10 %).

Patient was put on a non-rebreathable high flow mask and the level came down to 20.3% and 12% at 30 minutes and 60 minutes respectively. Patient was admitted for observation and after 2 hours, the level had normalized to less than 3%. He was discharged well the next day.

LESSONS LEARNT & CONCLUSION

Consider carbon monoxide poisoning in an unconscious person with high oxygen saturation and reddish skin. Accidental poisoning should be suspected in patients present being unconscious in old vehicle with presence of fume smell within the cabin or car that rattles.

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STREPTOKINASE VERSUS
TENECTEPLASE FOR
ACUTE MYOCARDIAL
INFARCTION

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INTRODUCTION

Tenecteplase is new generation of fibrin specific thrombolysis. It is perceived as higher superiority in terms of efficacy, complications and mortality as compared to streptokinase. There is limited literature comparing tenecteplase and streptokinase.

MATERIALS & METHOD

This is prospective cross sectional study of convenient sampling in Hospital Umum Sarawak over a period of 6 months. Patient was diagnosed and treated as MI by attending physicians. The choice of thrombolysis is at discretion of the

treating doctors. Outcome data was collected in ED or Cardiology centre, Sarawak. The criteria for successful reperfusion include resolution of ST elevation of at least 50%, resolution of symptoms, and improvement of clinical pictures.

RESULTS

45 patients were enrolled in this study. Our patients were predominantly male (93.3%), Bumiputera in origin (64.4%) with a mean age of 59 years old. 62.3% were smokers and 64.6% has at least 1 premorbid condition. 22 patients were given tenecteplase, with 6 failed reperfusion. 23 patients received streptokinase, with 5 patients failed thrombolysis. 62.2% of the lesion arise from the left coronary artery. Rate of mild bleeding is similar between both group. There is no major bleeding in this cohort.

DISCUSSION

From our data, there's no different in success rate or bleeding rate between tenecteplase and streptokinase regardless of demographic or type of coronary lesion. Larger prospective RCT study is needed to confirm our findings.

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BRAIN PACEMAKER AND MEMORY ENHANCEMENT: INVESTIGATION OF NEURAL AND MOLECULAR MECHANISMS IN THE AGED BRAIN

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INTRODUCTION

Age-related memory dysfunction is the main symptom of dementia-

related disorders. Current treatments for dementia are limited, and no therapies are known to halt the development of this neurodegenerative disease. In this study, we tested the hypothesis that electrical stimulation of the medial prefrontal cortex (mPFC) enhanced learning and memory-related behaviors in an aged animal model.

MATERIALS AND METHODS

Aged rats were stimulated in the mPFC and they were behaviorally tested for hippocampal-dependent memory and anxiety-related tests to evaluate possible side-effects. The molecular mechanisms in the hippocampus along with other brain regions were investigated using a combination of *in vivo* electrophysiological recording, immunohistological and biochemical approaches including DNA microarray-based genome-wide analyses with real-time quantitative PCR and western-blotting techniques.

RESULTS

Our data demonstrated that electrical stimulation targeting specifically the mPFC evoking powerful memory enhancement effects in aged animal model. Our results showed a remarkable increase of neural progenitors, surviving BrdU-positive cells, and dendritic arborization after chronic stimulation as compared to the control. Principle component analyses revealed differentially expressed genes in both the dorsal and ventral hippocampi. Pathway analysis showed a distinct pattern of biological signaling mechanisms after stimulation in particular the monoamine and synaptic neurotransmission, neuroplasticity-related functions, regulation of cyclic adenosine monophosphate metabolic and biosynthetic processes. In addition,