

1. Lead examiner

Candidate Number:

2. Co-examiner

Final Mark:

SCENARIO

A 48 year old man arrives by ambulance to your rural emergency department after being found collapsed on the floor of the shed of his property. He was vomiting violently. He has a history of hypertension. On arrival, he has a GCS of 14 and is diaphoretic. Vital signs are: HR 50/min, BP 82/50 mmHg, RR 20/min, Temperature 37.1°C, O₂ Saturation 89% (on non re-breather mask).

Question 1: List your differential diagnoses

Expected Response	Details & Comments	1 min
Poisoning <i>Prompt: what potential agents?</i>	Cholinergic (eg organophosphates), beta-blocker, CCB, digoxin	All bold to pass
Envenomation	Snake, Funnel Web Spider	
Cardiovascular	AMI with cardiogenic shock; arrhythmia	
CNS	ICH, SAH, SOL (with bleed and/or mass effect), post ictal	
Metabolic	Hypoglycaemia	
Trauma	Head injury	
Septic Shock	Any cause	

Question 2: The patient's wife arrives with a suicide note, written by him. It appears he deliberately ingested organophosphate insecticide. What are the clinical features of an organophosphate poisoning?

Expected Response	Details & Comments	1 min
CVS	bradycardia, hypotension (tachycardia, hypertension)	5 bold & 2 other
Neuromusc	reduced GCS, miosis , increased lacrimation, fasciculation, muscle weakness, seizures	
Resp	bronchorrhea, bronchospasm , signs of resp failure	
GIT	salivation, vomiting , diarrhoea	
Skin	diaphoresis	
Genitourinary	incontinence	
	<i>Prompt: what other systems can be involved?</i>	

Question 3: He remains hypotensive, bradycardic & hypoxic on high flow oxygen. Outline your management.

Expected Response	Details & Comments	3 min
Life threatening overdose	Clinical features c/w mod- severe cholinergic poisoning – Consult early with Toxicology and ICU	All bold with appropriate prompts
Resuscitation & Stabilisation	Team approach, universal precautions for staff, well ventilated resus room Remove all patient's clothing, bag / secure disposal, decontaminate skin with soap and water if applicable (eg vomitus)	
Early airway & breathing intervention	Adequately oxygenate , Suction, BVM support, prepare for intubation & ventilation	
Antidote	Atropine (counters muscarinic effects). Notify Pharmacy –anticipate large requirements. High doses , commence 1 - 2mg repeat boluses q 2-3 mins (escalating doses) Endpoints – drying of secretions, ↑HR, ↑BP, mydriasis Commence infusion. <i>Prompt: What are your endpoints of treatment with atropine?</i>	
Pralidoxime	Controversial (reactivates AChE ie. reverses ChE inhibition – if given prior to ageing) Consult Toxicology 2g IV load then 0.5g/hr infusion Rx seizures	
GI Decontamination	No role for activated charcoal, agent likely fully absorbed, can aspirate OGT if coingestants	
Supportive Care / Critical Care Monitoring	Correct haemodynamic instability - IV crystalloids Seek and treat hypoglycaemia Invasive monitoring: CVC, arterial line, IDC, NGT Ongoing sedation: caution with maintaining BP	
Disposition	ICU/transfer	
Consult	Toxicology, ICU, Social Work (for family)	

Question 4: The patient suffers a generalized tonic-clonic seizure. Outline your response

Expected Response	Details & Comments	1 min
Terminate seizure	Seizures are a recognized complication of OP poisoning	All bold
Check BSL	Correct hypoglycaemia with 50% dextrose	
IV BDZ	To terminate seizure	
Correct underlying cause	Correct electrolyte abnormality eg BSL, K, Mg, Ca	
	Ensure adequate atropinisation –bolus atropine IV Correct cerebral hypoperfusion – bolus atropine IV Intubate if not already intubated	
Prevent recurrences of seizures	D/W toxicology – unlikely an anticonvulsant such as phenytoin will help – if recurrent- IV BDZ infusion would be more appropriate	
Avoid	Hypotension, hypoglycaemia etc which may potentiate seizures	

Question 5: A member of the resuscitation team develops a headache and is concerned about possible toxic exposure. Outline your response.

Expected Response	Details & Comments	1 min
	Risk to staff low , especially if appropriate precautions taken. Symptoms usually related to solvent exposure, however work related incidence, requires appropriate risk assessment and documentation . Offer counselling, consider department debrief.	All bold

Comments: (if you fail the candidate, please state why)

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If the candidate fails the exam overall, what feedback would you suggest CIC provide for this SCE?

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