

# Question 19

## The Tox question

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A 24 year old woman presents to your tertiary Emergency department with delirium. You suspect a toxic ingestion.

- a. List three (3) possible **toxicological** causes for her condition that require **specific treatment**.

For each agent, list one (1) **clinical feature** that would help differentiate from the other causes, one (1) **specific treatment** that may be required and one (1) **indication** for its use.

Agent (1 mark)	Clinical feature (1 mark)	Specific treatment (1 mark)	Indication (1 mark)
Salicylate	<ul style="list-style-type: none"> <li>• Tinnitus</li> <li>• Hyperventilation</li> </ul>	<ul style="list-style-type: none"> <li>• Urinary alkalinisation</li> </ul> <hr/> <ul style="list-style-type: none"> <li>• Haemodialysis</li> </ul>	<ul style="list-style-type: none"> <li>• Symptomatic salicylate toxicity</li> </ul> <hr/> <ul style="list-style-type: none"> <li>• Rising salicylate levels despite decontamination/alkalinisation</li> <li>• Severe toxicity – altered mental state, acidotic, renal failure</li> <li>• Very high salicylate level</li> </ul>
Serotonergic (give specific example)	<ul style="list-style-type: none"> <li>• Clonus</li> <li>• Hyperreflexia</li> <li>• Diaphoresis</li> </ul>	<ul style="list-style-type: none"> <li>• Cyproheptadine</li> <li>• Intubation/paralysis</li> <li>• BZD</li> </ul>	<ul style="list-style-type: none"> <li>• Mild-mod serotonin syndrome refractory to BZD</li> <li>• Coma, seizures, fever&gt;39.5, severe rigidity</li> <li>• To treat HT/tachycardia</li> </ul>
Anti-cholinergic (give specific example)	<ul style="list-style-type: none"> <li>• Dry mucous membranes</li> <li>• Mydriasis</li> <li>• Urinary retention</li> </ul>	<ul style="list-style-type: none"> <li>• Physostigmine</li> </ul>	<ul style="list-style-type: none"> <li>• Agitated delirium not controlled with BZDs</li> </ul>

Agent (1 mark)	Clinical feature (1 mark)	Specific treatment (1 mark)	Indication (1 mark)
Organophosphate	<ul style="list-style-type: none"> <li>• Salivation</li> <li>• Bronchorrhea</li> <li>• Other cholinergic</li> </ul>	<ul style="list-style-type: none"> <li>• Atropine</li> <li>• Pralidoxine</li> </ul>	<ul style="list-style-type: none"> <li>• Symptomatic cholinergic toxicity e.g. bradycardia, secretions.</li> </ul>
Sympathomimetic e.g. amphetamines	<ul style="list-style-type: none"> <li>• Severe hypertension</li> <li>• Hyperthermia</li> <li>• Seizures</li> </ul>	<ul style="list-style-type: none"> <li>• BZD</li> <li>• Phentolamine</li> </ul>	<ul style="list-style-type: none"> <li>• Severe hypertension, hyperthermia</li> </ul>
TCA	<ul style="list-style-type: none"> <li>• Anticholinergic (dry mouth, mydriasis, urinary retention)</li> <li>• ECG changes – broad QRS, dominant R wave aVR</li> <li>• Broad complex tachyarrhythmias</li> <li>• Shock</li> <li>• Seizures</li> </ul>	<ul style="list-style-type: none"> <li>• Sodium bicarbonate</li> <li>• Intubation/hyper ventilation</li> </ul>	<ul style="list-style-type: none"> <li>• Ventricular dysrhythmia</li> <li>• ECG – QRS &gt; 100ms</li> </ul>

Other – psychotropic (NMS), carbamazepine, GHB, ketamine

# Common incorrect answers

- Toxic alcohol
- Opioids
- Paracetamol

b. Toxic ingestion has been excluded.

List three (3) important non-toxicological differential diagnoses for her condition, and for each give your method of confirming the diagnosis.

<b>Diagnosis (1 mark)</b>	<b>Diagnostic method (1 mark)</b>
Hypoglycaemia	BSL
SAH, ICH, Head injury	CTB
Meningitis, Encephalitis	LP
Thyroid storm	TFTs
Hyponatraemia	Serum sodium
Post-ictal	History of seizure/epilepsy
Heat stroke	Fever/history of exposure
ETOH withdrawal	History ETOH dependence Clinical signs e.g. tremor, sweating, hallucinations
Hepatic/uraemic encephalopathy	LFTs Renal function

# Sorry, no marks...

- Sepsis
- DKA
- UTI



# General points

- Remember the stem and keep your answers relevant.
- Consultant-level answers should be specific - Not enough: “bicarb”  
“ECG changes” “dry”

Good luck with your exam  
preparation!

If you have any questions, please email:  
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