

Methaemoglobinaemia

Name 2 congenital causes of methaemoglobinaemia. 1 point

Congenital NADH methaemoglobin reductase deficiency
Haemoglobinopathy – haemoglobin M

List 2 drugs commonly used in A&E department which can cause methaemoglobinaemia.- 1 points

GTN- IV or patch
Local anaesthetics- Lidocaine, bupivacaine
Silver nitrate

What is the normal level of methaemoglobin and at what level does toxicity become symptomatic? 1 point

< 1% is normal
>20% symptomatic

List 2 signs or symptoms of mild OD and 2 of severe OD- 2 points

Mild- *nausea, vomit, tachycardia, anxiety, headache, lethargy, dyspnoea, weakness, syncope, may get chocolate cyanosis*
Severe- *coma, seizures, cardiac arrhythmias, cardiac conduction defects, death, “chocolate cyanosis”*

A 14 year old youth is brought in unconscious to the department. He was found in the school playground in the evening after his friends rang for ambulance. You suspect he has methaemoglobinaemia, what would you ask the ambulance crew regarding the scene where pt was found and why? 2 points

Were there any cans around and smell of petroleum products
butyl-, isobutyl-, amyl- nitrites and naphthalene used as recreational drugs cause methaemoglobinaemia.

What is the treatment of methaemoglobinaemia? 1 point

List 4 indications for obtaining methaemoglobin levels. 2 points

Methylene blue- 1-2 mg/kg,- extra point for dose
(revision points- it is ineffective in pt with G6PD deficiency and should not be given to pt that are already blue (in overdose it causes methaemoglobinaemia))

Cyanosis unresponsive to Oxygen
Chocolate cyanosis- dark brown colour of arterial blood on testing
High or normal pO₂ with low sats
History of nitrate/ite abuse/exposure associated with symptoms/signs of methaemoglobinaemia

Anticholinergics

List 5 peripheral and 5 central effects of anticholinergic effects of a drug overdose. 5 points.

CENTRAL	PERIPHERAL
<p><i>Agitation</i> <i>Mydriasis and blurred vision</i> <i>Confusion</i> <i>Coma</i> <i>Aggression</i> <i>Hallucinations</i> <i>Delirium</i></p>	<p><i>Warm, dry skin</i> <i>Tachycardia</i> <i>Ileus</i> <i>Low-grade temp</i> <i>Dry mucous membranes</i> <i>Urinary retention</i></p> <p><i>P.S. Feel free to add others if you know of any</i></p>
<p>List 4 groups of drugs responsible for such a presentation. 2 points</p>	
<p><i>Antihistamines- older H1</i> <i>Tricyclic antidepressants</i> <i>Antipsychotics- e.g. phenothiazines, clozapine, risperidone</i> <i>Anticholinergic drugs- Atropine, benhexal, benztropine, scopolamine</i> <i>Amantadine,</i> <i>Carbamazepine</i> <i>½ point for either group or a single drug representing it.</i></p>	
<p>A patient with the signs and symptoms of anticholinergic drug OD and has a broad complex tachycardia on the ECG- what treatments could you offer? 2 points</p>	
<p><i>Sodium Bicarbonate ½-1 mmol/kg bolus until blood pH 7.57.55</i> <i>If arrhythmia persists ALS protocol for an extra ½ mark</i></p>	
<p>What is the antidote that can be used in anticholinergic crisis and when should it be avoided? 1point</p>	
<p><i>Physostigmine or tacrine</i> <i>Do not use if broad complex tachy or due to TCA OD can cause asystole</i></p>	

General toxicology

List 3 effects causing tachycardia due to poisoning and a drug responsible. 3points

Sympathomimetic- Amphetamines, caffeine, cocaine, theophylline and others
Anticholinergic- tricyclics, antihistamines, beztropine, phenothiazides and others
Reflex response to hypotension- alcohol, salicylates, metals and others
Reflex response to hypoxia- paraquat

List 3 drugs responsible for bradycardia- 3points

B-blockers, Ca channel blockers, Digoxin, clonidine

List 4 toxic causes of hyperthermia- 4points

Salicylates, amphetamines, cocaine, MAO inhibitors, Serotonin syndrome, anticholinergics, presumably thyroxin?

A 32 year old lady comes in c/o PV discharge and lower abdominal pain. She is fit and healthy normally and has been feeling unwell for 3 days or so.

What are the minimal criteria for the diagnosis of PID- 3 points

Adnexal tenderness
Lower abdominal pain/tenderness
Cervical excitation

What is the first test you should do in such a patient? 1 point

Pregnancy test

What is the most common method of acquiring the infection, what organism is responsible and how would you treat it normally? 3 points

Sexually transmitted
N Gonorrhoeae or C trachomatis
Ofloxacin and metronidazole orally at home (400mg bdf or both, orally f or 14 days f or extra mark)

What blood tests are likely to help with the diagnosis- 1 point

None- WCC is rarely raised, ESR and CRP too nonspecific it is a clinical diagnosis

List 4 criteria for admission in patients with PID 2 points

Failure to respond to oral treatment in 24-48 h
Unable to exclude a surgical cause e.g. appx
Tubo-ovarian abscess
Pt unable to comply with oral treatment
Pregnancy
Pt systemically unwell- signs of sepsis
Adolescent age
Other medical conditions e.g. Immunocompromise, diabetic

Radiology

These 2 radiographs show the same injury.

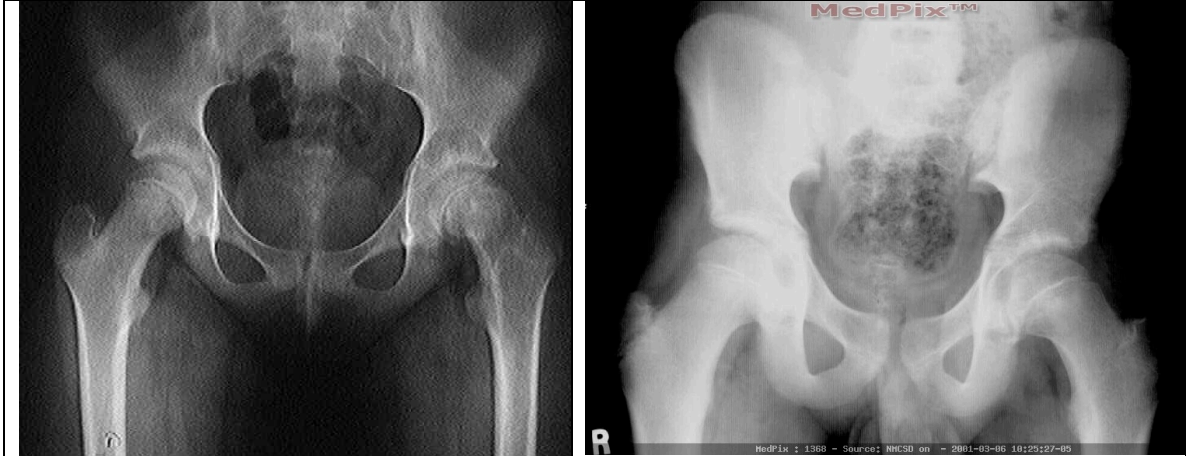
Name the injury 1 point

How do you tell- 1 point

What age group does it typically affect? - 1 point

Why is the injury on the left rarer than the right? 1 point

What is the treatment in A&E and definitive? 1point



Slipped upper femoral epiphysis

Line drawn along the superior margin of the femoral neck does not transect the head

Girls 10-13, boys 12-15

L is a girl- 8 times rarer

A&E= non weight bearing, definitive- internal fixation

What are the 2 most likely places for the coin to be in.

1point

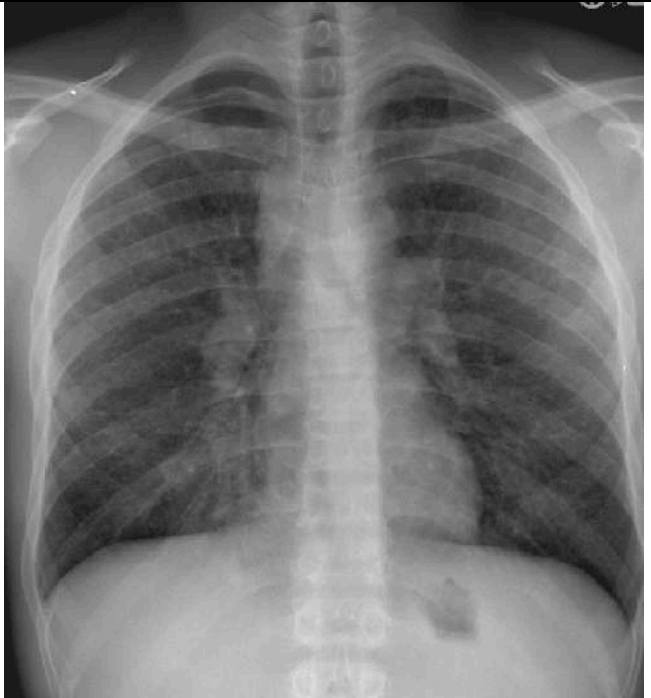
What makes you say that? 1 points



In the oesophagus or on the skin

It is face on- tracheal coins TEND to be side on since they have to go between vocal cords, it is also below the bifurcation ½ point each

This patient came to A&E with this rather odd rash on her trunk. You noticed that her breathing is a bit more laboured than you'd expect a 30 year old healthy female to be and she has fine crackles all over her lungs. Describe the X-ray- 1point
What is the disease? 1 point



*Bilateral hilar lymphadenopathy with generalised infiltrates
Sarcoidosis- X-ray stage 2 for an extra point*