

## **Question 1**

A 64-year-old female is brought in to the Emergency Department by ambulance feeling generally unwell. She collapsed at home. Her family says that she has been complaining of feeling generally weak and has severe abdominal pains. She has a background of autoimmune hepatitis and her medications included Prednisolone, Azathioprine and Ramipril. The ambulance crew found her to be confused, lethargic and jaundiced.

Observations are:

BP 85/43

HR 160/min, regular

Capillary blood glucose 0.8

Temperature 36.5°C

Blood results are:

Na<sup>+</sup> 121 [134-143] mmol/L

K<sup>+</sup> 6.7 [3.6-5.3] mmol/L

Urea 6.0 [2.0-6.8] mmol/L

Creat 92 [51-96] mmol/L

Hb 12

WCC 4

Pft 160

Arterial blood gas results are:

pH 7.10 [7.35-7.45]

pCO<sub>2</sub> 4.5 [4.6-6.1] kPa

pO<sub>2</sub> 12.1 [12-15] kPa

HCO<sub>3</sub> 10 [23-27] mmol/L

BE -12 [0-2] mmol/L

## **Question 1**

What is the likely diagnosis? [1 mark]

What is the immediate treatment? [4 marks]

You decide to perform a short synacthen test. How is this done? [1 mark]

She starts to vomit blood and passes a large amount of melaena. She is still shocked and you suspect moderate to severe haemorrhage. Outline your immediate management. [4 marks]

## **Question 2**

A 46-year-old male is brought to the Emergency Department unconscious. One of the staff recognises him as a local tramp.

Blood results are:

Sodium	140	[134-143] mmol/L
Potassium	4.6	[3.6-5.3] mmol/L
Chloride	96	[95-110] mmol/L
Creatinine	149	[51-96] mmol/L
Urea	13	[2.0-6.8] mmol/L

Arterial blood gas results are:

pH	7.13	[7.35-7.45]
pCO <sub>2</sub>	1.2	[4.6-6.1] kPa
pO <sub>2</sub>	16.0	[12-15] kPa
Base excess	-22	[0-2] mmol/L
Standard Bicarbonate	3.0	[23-27] mmol/L
Oxygen Saturation	100%	

## **Question 2**

How do you calculate the osmolar gap? [1 mark]

Give 2 clinical manifestations of Stage 1 ethylene glycol poisoning. [2 marks]

Give 2 drugs that can be used to treat ethylene glycol poisoning and what is their mechanism of action? [3 marks]

Calculate this patient's anion gap. [1 mark]

Give 6 other causes of metabolic acidosis with an elevated anion gap. [3 marks]

### **Question 3**

A 5year old child is brought to the Emergency Department with his parents. He was recently diagnosed as having suffered with Kawasaki disease and was fully investigated and placed on long term treatment. On this attendance, his parents found some red flat spots that rose up and then blistered. They were itchy. He has a cough, a runny nose, and a temp 38.5.

What are the features of Kawasaki disease? [4 marks]

What potential condition results from the long term treatment of Kawasaki disease and the viral illness described? [1 mark]

There are 5 stages of this syndrome

What are the features of stage one? [2 marks]

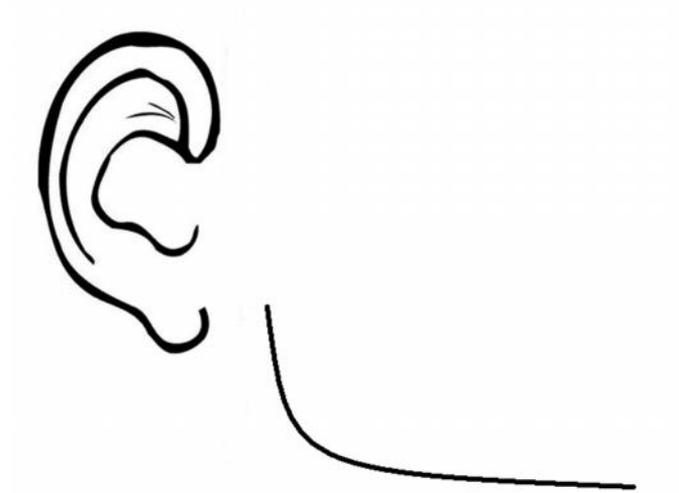
The last stages include seizures, multi organ failure, flaccidity, high blood ammonia and death. What is the pathophysiology of this condition? [2 marks]

What is the risk of death in children with brain damage? [1 mark]

### **Question 4**

Draw and name the sensory nerve supply to the ear. [3 marks]

Indicate where you would infiltrate local anaesthetic to block sensation to the ear. [2 marks]



What does 0.05% mean when describing local anaesthetic drug concentration? [1 mark]

Give four early signs and symptoms of local anaesthetic toxicity. [2 marks]

What is the antidote to local anaesthetic poisoning? Give drug and dose. [2 marks]

### **Question 5**

A 20-year-old woman attends with a history of lower abdominal pain. She has a pyrexia of 37.5°C

What are the four common features of pelvic inflammatory disease? [4 marks]

Give 2 of the common pathogens? [2 marks]

What combination of drugs would you use to treat this condition? [2 marks]

In what circumstances do you consider admission? [2 marks]

### Question 6

45y old male know to have psoriasis comes in with bilateral red legs

What is the diagnosis (1 mark)

Name 3 complications (3 mark)

What 3 other conditions can present like this (3 mark)

Give 3 other non-dermatological features of psoriasis (3 marks)

## Question 7

3 year old with asthma sats 91%, having difficulty talking RR 28

4 features of severe asthma (2marks)

4 features that would suggest treatment not working (2 marks)

2 respiratory drugs and doses (2 marks)

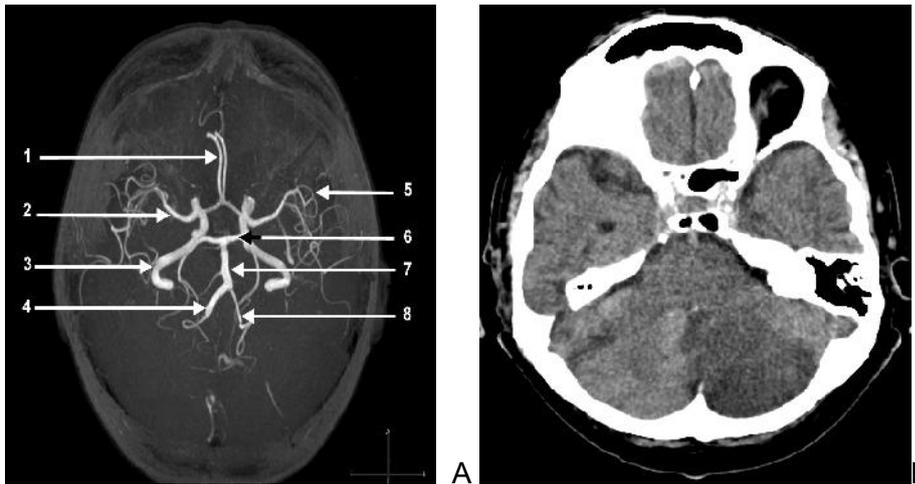
2 Indications for CXR (1 mark)

Patient gets better and happy to discharge. 4 points to discharge patient (2 marks)

### Question 8

A patient presents with ataxia and vertical nystagmus.

Following assessment a CT brain is performed.



1. Describe the abnormality on the CT image (b) and name structures labelled 2 and 7 (image a). (3 marks)

2. List 4 characteristics of peripheral vertigo used to differentiate from central vertigo. (2 marks)

3. List 2 classes of drugs with examples used in the symptomatic control of peripheral vertigo (2 marks – ½ mark for class, ½ for drug)

4. List the 3 components of the ROSIER score used in stroke assessment (3 marks).