

Neurology - QUESTIONS

SAQ 1

A 7 year old boy is brought to ED by his concerned mother. She states he had URTI symptoms for the past two days, and is now drowsy and dehydrated. Examination reveals a febrile child (38.3C) who responds to pain only. You notice a non-blanching rash on his legs and suspect meningitis.

- a. Complete the following table regarding common organisms causing bacterial meningitis in different age groups. (4 marks)

Age group (years)	Two common causative organisms
Neonates	
Infants and toddlers	
Young adults	
Elderly	

- b. You decide to do an LP. List 4 contraindications to lumbar puncture in any patient. (4 marks)

- c. The mother asks you whether there are risks involved in the procedure. List four complications of lumbar puncture you will discuss with her. (4 marks)

- d. Complete the following table regarding LP results in bacterial and viral meningitis. (6 marks)

	Bacterial meningitis	Viral meningitis
Opening pressure	High/low/normal	High/low/normal
Appearance		
Protein level	High/low/normal	High/low/normal
Glucose	High/low/normal	High/low/normal
Gram stain		
WCC		

SAQ 2

A 72 year old female presents to ED with acute hemiparesis of the left arm for 40 minutes. She has no other medical history.

- a. List six differential diagnoses for her presentation. (6 marks)
- b. Briefly outline four factors regarding the use of thrombolytics in acute stroke. (4 marks)
- c. List five contraindications to thrombolysis in acute stroke. (5 marks)
- d. The CT shows a hyperdense MCA. The patient has no pre-existing contraindications to thrombolysis. Would you thrombolysed this patient? Justify your answer. (2 marks)

SAQ 3

A 55 year old male is brought in by ambulance complaining of a severe headache, vomiting, and blurred vision. On examination, his BP is 260/145, similar in both arms. His GCS is 14/15. A CTB is normal.

- a. Define malignant hypertension. (2 marks)
- b. List four medications with dose and route that may be used to control the hypertension in THIS patient. For each medication, state its mechanism of action on blood pressure, and EITHER a positive or negative effect of that medication. (4 marks)

- c. State your end point for BP reduction and justify it. (2 marks)

SAQ 4

A 26 year old female with a history of chronic back pain presents with increased pain and difficulty walking. She states she had a viral illness two days prior to presentation, and since then noticed weakness in both legs.

- a. List four differential diagnoses for her presenting symptoms. (4 marks)
- b. Complete the following table comparing cauda equina syndrome and Guillain Barre syndrome. (7 marks)

Symptom	Cauda equina	Guillain Barre
Rapidity of onset		
Pattern of paralysis		
Other system involvement		
Paraesthesia		
Urgency of management		
Back pain		
Cause of condition		

- c. You diagnose likely Guillain Barre syndrome. State two tests you will perform on this patient with justification. (2 marks)

SAQ 5

A 2 year old boy with a history of epilepsy presents in status epilepticus for 40 minutes. The child has no IV access and is still actively seizing. His airway is patent and he has been brought to the resuscitation room. BGL is 4.8.

Outline your approach to the management of his status epilepticus. (5 marks)

SAQ 6

A 24 year old female presents with a sudden onset headache. She has a history of migraines and is a current smoker. She mentions that her father had a haemorrhagic stroke ten years ago. You suspect a subarachnoid haemorrhage.

- a. List five risk factors for cerebral aneurysm. (5 marks)

- b. What is the most common type of cerebral aneurysm? (1 mark)

- c. You decide to do a CT to investigate her headache. What is the sensitivity of CT for detecting acute SAH in each of the following timeframes? (3 marks)

Within 12 hours of symptom onset
Within 24 hours of symptom onset
Within 5 days of symptom onset

- d. A CT scan is negative for acute haemorrhage. You discuss a lumbar puncture with the patient, who asks if this is necessary. How do you answer her? (2 marks)

- e. What is the mortality rate for acute SAH? (1 mark)

- f. State a medication you would give for a confirmed SAH, why you would give it, and the dose. (2 marks)

- g. State a validated prognostic scale for SAH. (1 mark)