

MCQs

Seizures and epilepsy

Question 1

A 30-year-old man was admitted to the Acute Medical Unit following a first tonic-clonic seizure, which was witnessed by his wife who gave a good eye-witness account. His only past medical history was asthma which was well controlled on inhalers. He was not taking any other medication and did not drink alcohol. There was no family history of seizures, collapses or sudden death. He had not experienced any kind of seizures before.

On examination he was well, with a normal cardiovascular and neurological examination. Blood tests and a 12-lead ECG were normal. He was discharged home with written advice about a first tonic-clonic seizure and told not to drive. An urgent outpatient MRI scan of the brain and a standard EEG were normal.

What is the approximate risk of him having another seizure in the first 6 months?

- A 10%
- B 30%
- C 50%
- D 70%
- E 90%

Question 2

A 30-year-old man was admitted to the Acute Medical Unit following a first tonic-clonic seizure, which was witnessed by his wife who gave a good eye-witness account. His only past medical history was asthma which was well controlled on inhalers. He was not taking any other medication and did not drink alcohol. There was no family history of seizures, collapses or sudden death. He held a normal (Group 1) driving licence.

On examination he was well, with a normal cardiovascular and neurological examination. Blood tests and a 12-lead ECG were normal. He was discharged home with written advice about a first tonic-clonic seizure. An urgent outpatient MRI scan of the brain and a standard EEG were normal.

For how long must he not drive by Law in the UK?

- A 3 months
- B 6 months
- C 12 months
- D 24 months
- E Until seen by a neurologist

Question 3

An 80-year-old woman was admitted having been found extremely agitated and confused at home, having 'wrecked' her living room. She had been seen the night before by her daughter and was well. Paramedics struggled to get her in to the ambulance and she was sedated with 1mg iv lorazepam in the Emergency Department. Her past medical history included a right middle cerebral artery infarct 2 years before (causing left sided weakness) and hypertension. She usually mobilised with one stick and managed activities of daily living independently with some help from her daughter. She had been admitted with 'vacant episodes' 1 year ago with no cause found.

On examination, she was disorientated and confused with poor attention. The rest of the clinical examination was normal apart from her usual mild left sided weakness.

Investigations:

Haemoglobin	140 g/L (115–165)
MCV	85 fL (80–96)
white cell count	$9.2 \times 10^9/L$ (4.0–11.0)
platelet count	$350 \times 10^9/L$ (150–400)
serum sodium	134 mmol/L (137–144)
serum potassium	4.5 mmol/L (3.5–4.9)
serum urea	5.6 mmol/L (2.5–7.0)
serum creatinine	72 $\mu\text{mol/L}$ (60–110)
eGFR	>60 (mL/min/1.73 m ²)
serum glucose	9.0 mmol/L (3.0–6.0)
serum C-reactive protein	<5 mg/L (<5 mg/L)
urinalysis	2+ leucocytes, 1+ nitrites
chest X-ray	normal
12-lead electrocardiogram	75 beats per minute no other abnormalities
CT scan of the head	Hypodensity in the right parietal area consistent with previous stroke

What is the most likely diagnosis?

- A Delirium
- B Epilepsy
- C Psychosis
- D Urinary tract infection
- E Vascular dementia

Question 4

An 18-year-old woman was admitted following a collapse in her bathroom. She had been feeling unwell and had not eaten for 2 days when she went to the bathroom to vomit. In the bathroom she looked pale and told her mother she was going to pass out. She was observed to slump to one side and lose consciousness. Her mother propped her upright and saw the patient go rigid and jerk all four limbs for around 20 seconds. She was incontinent of urine. She was briefly disorientated on coming round but was back to normal within 5 minutes. She had no past medical history and was not taking any regular medication. There was no family history of collapses.

On examination she was well. Examination of the cardiovascular and neurological systems were normal. Blood tests and a 12-lead ECG were normal. A CT scan of the head performed in the Emergency Department was also normal.

What is the most likely cause of her collapse?

- A Bezold-Jarisch reflex
- B Hysteria
- C Hypoglycaemia
- D Neurally-mediated syncope
- E Seizure

Question 5

A 50-year-old self-employed joiner was admitted to the Acute Medical Unit following a first tonic-clonic seizure. He drank around 10 units of alcohol per week and was taking several medications for COPD, depression and low back pain. He had recently started antibiotics for a chest infection. There was no family history of collapses.

On examination he was back to normal. The cardiovascular and neurological examination was normal. Blood results, a 12-lead ECG and a CT scan of the head performed in the Emergency Department were also normal.

Which of the following medications (in therapeutic doses) can provoke seizures?

- A Beclomethasone
- B Co-amoxiclav
- C Diazepam
- D St John's Wort
- E Tramadol

Question 6

An 18-year-old University student was admitted to the Acute Medical Unit after a tonic-clonic seizure that was witnessed by his girlfriend. While making breakfast in the kitchen, he was observed to let out a cry and then fall rigid to the ground, followed by 30 seconds of jerking of the limbs. He bit the side of his tongue. He was unresponsive for several minutes afterwards. His girlfriend called an ambulance. He had not had a seizure before, but she had noticed his right arm and head tended to twitch in the mornings, especially when he was tired. He had no past medical or family history and was not taking any medication.

On examination he was back to normal. The cardiovascular and neurological examination were normal. Blood results and a 12-lead ECG were also normal.

What treatment should be offered before discharge from hospital?

- A Carbamazepine
- B Clonazepam
- C Leveteracitam
- D No treatment
- E Sodium valproate

Question 7

A 50-year-old businessman was admitted following several 'out of body experiences' that had concerned him enough to attend the Emergency Department. He described several episodes of feeling not really there, during which he could not speak and felt as if he was leaving his own body and observing the room from outside himself. His wife noticed he went blank during these episodes. She also said that he had been under considerable stress with his work since a cycling accident one year ago during which he sustained a brain injury. He had made a full physical recovery but suffered from low mood. He did not take any regular medication.

On examination he was back to normal. The cardiovascular and neurological examination was normal. Blood results and a 12-lead ECG were normal. A CT scan of the head performed in the Emergency Department was unchanged from previous, showing an abnormality consistent with his previous injury in the right temporoparietal area.

What is the most appropriate treatment?

- A Carbamazepine
- B Citalopram
- C Counselling
- D Leveteracitam
- E No treatment

Question 8

A 21-year-old man, treated for focal epilepsy, was admitted to the Acute Medical Unit because of a cluster of seizures that day. During the initial assessment he was observed to suddenly stare in to space and become semi-responsive before coming round and being able to answer questions again. He had no other past medical history, and was taking Sodium Valproate 800mg BD, Lamotrigine 100mg BD and Clobazam 10mg at night. Clinical examination and a 12-lead ECG were normal. His blood results were normal apart from a mild neutrophilia.

An hour later, he was found to be unrousable in bed. His vital signs were normal apart from a GCS of 5. Clinical examination revealed no abnormalities. An urgent CT of the head was normal.

What is the most likely cause of his reduced conscious level?

- A Aspiration pneumonia
- B Clobazam overdose
- C Hypoglycaemia
- D Status epilepticus
- E Valproate-induced encephalopathy

Question 9

A 32-year-old woman, who was 30 weeks' pregnant, was admitted to the Antenatal Unit following a tonic-clonic seizure. She was known to have idiopathic generalised epilepsy and was taking Lamotrigine 75mg BD for this. She had no other past medical history.

There was a suspicion that she was not taking her epilepsy medication because of previously expressed fears of harm to her unborn baby.

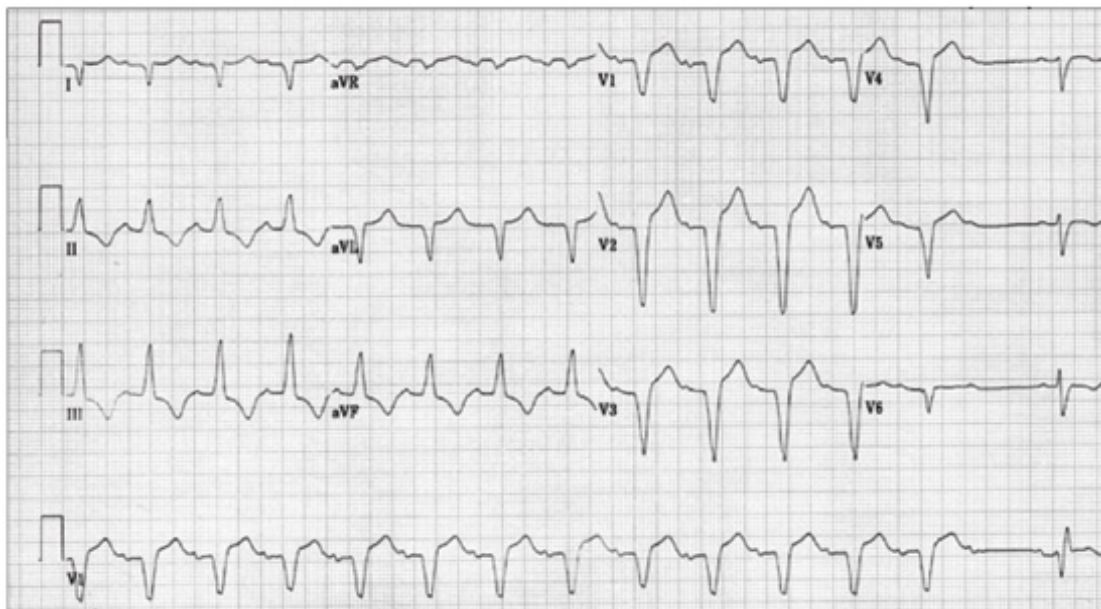
What is the risk of a major foetal abnormality in women taking this dose of Lamotrigine?

- A 1%
- B 2.5%
- C 5%
- D 7.5%
- E 10%

Question 10

A 77-year-old man was admitted to the Acute Medical Unit following a tonic-clonic seizure which was witnessed while he was on a trolley in the Emergency Department. He had had several unwitnessed collapses before at home and his wife called an Ambulance because of one earlier that day. His past medical history included ischaemic heart disease, hypertension and benign prostatic hyperplasia. His regular medication comprised Aspirin 75mg daily, Doxazosin modified release 4mg daily, Simvastatin 40mg at night and Amlodipine 10mg daily.

On examination he was back to normal. The cardiovascular and neurological examination was normal. His supine blood pressure was 150/80 mmHg which fell to 120/60 mmHg after 2 minutes standing without symptoms. His blood results were normal. A CT scan of the head showed moderate small vessel disease. A 12-lead ECG was performed:



What is the next best treatment decision in this case?

- A Grade 2 compression stockings
- B Lamotrigine
- C Permanent pacemaker
- D Sodium valproate
- E Stop doxazosin

Answers

Question:

1. B
2. B
3. B
4. D
5. E
6. E
7. A
8. D
9. B
10. C