MCQs
Dizziness

Question 1

A 75-year-old woman was admitted following a fall. During an assessment of her fall she complained of balance problems and dizziness whenever she looked upwards, for example, to hang laundry on her washing line outside.

Her past medical history comprised hypertension, mild angina and diet controlled diabetes for which she was taking aspirin 75mg daily and amlodipine 10mg daily. She also had osteoarthritis of the knees. On examination, her gait and balance and neurological examination was normal and there were no injuries.

What is the most likely diagnosis?

A Benign paroxysmal positional vertigo
B Cervical spondylosis
C Concussion
D Thoracic outlet syndrome
E Vertebrobasilar insufficiency

Question 2

A 40-year-old professional golfer was admitted because of a single episode of prolonged vertigo. On waking that morning he noticed his balance was not quite right. After arriving at work his symptoms got worse and he experienced severe vertigo, vomiting and ataxia. He had no headache, no hearing loss and no focal neurological symptoms. His colleagues called an ambulance. He had no past medical history and was not taking any regular medication.

On examination he had spontaneous horizontal nystagmus (fast component to the right), which increased when he looked to the right and reduced when he looked to the left. The head impulse test was abnormal on the left. Cranial nerves and the rest of the neurological examination was normal apart from an unsteady gait and a tendency to veer to the left.

What is the most likely diagnosis?

A Demyelinating lesion of the brain
B Posterior circulation stroke
C Vertebral artery dissection
D Vestibular neuritis
E Viral labyrinthitis

Question 3

A 60-year-old businessman was admitted to the Acute Medical Unit following three episodes of vertigo in the preceding two days. He described sudden onset double vision, followed by a sensation of everything moving, accompanied by numbness of the left side of his face. Each episode lasted around 10 minutes, followed by a full recovery. He had no past medical history apart from a broken ankle 20 years previously in a skiing accident which had fully healed.

On examination he had normal vital signs, apart from a blood pressure of 190/85 mmHg. There was nothing abnormal to find on clinical examination.

Investigations:

Haemoglobin	140 g/L (115–165)
MCV	85 fL (80–96)
white cell count	10.4 × 10^9/L (4.0–11.0)
platelet count	350 × 10^9/L (150–400)
serum sodium	134 mmol/L (137–144)
serum potassium	4.5 mmol/L (3.5–4.9)
serum urea	6 mmol/L (2.5–7.0)
serum creatinine	72 µmol/L (60–110)
eGFR	>60 mL/min/1.73 m^2 (>60)
serum glucose	5 mmol/L (3.0 – 6.0)
serum C-reactive protein	<0.5 mg/L (<0.5)
serum cholesterol	4.5 mmol/L (<5.2)
CT of the head	normal
12-lead electrocardiogram	84 beats per minute no other abnormalities

What is the most likely diagnosis?

A Brain tumour
B Epilepsy
C Migraine
D Transient ischaemic attack
E Vertebral artery dissection

Question 4

A 75-year-old woman was admitted following a fall. During an assessment of her fall she complained of balance problems and dizziness whenever she looked upwards, for example, to hang laundry on her washing line outside.

Her past medical history comprised hypertension, mild angina and diet controlled diabetes for which she was taking aspirin 75mg daily and amlodipine 10mg daily. She also had osteoarthritis of the knees. On examination, her gait and balance and neurological examination was normal and there were no injuries.

What is the best diagnostic test in this case?

A Adson's manoeuvre
B Cervical spine X-ray
C CT of the head
D Hallpike manoeuvre
E MR angiogram of the brain

Question 5

A 30-year-old teacher was sent to the Ambulatory Care Centre for an urgent assessment because of disabling recurrent vertigo. She described attacks lasting between 30 minutes and several hours occurring 1-2 times a month. The attacks were always similar – relatively sudden onset of vertigo, nausea and vomiting, and unsteadiness. The attacks would resolve spontaneously but were starting to interfere with her work where she admitted to being under considerable stress. During the attacks there was no headache, no hearing loss and no focal neurological symptoms. She was not taking any regular medication and had no other past medical history.

Examination of the cranial nerves, peripheral nervous system, gait and balance was normal. A 12-lead ECG was normal. An urgent MRI of the brain was also normal.

What is the most likely diagnosis?

A Benign paroxysmal positional vertigo
B Epilepsy
C Migraine
D Stress
E Transient ischaemic attack

Question 6

A 66-year-old woman was admitted to the Acute Medical Unit because of a single episode of prolonged vertigo, accompanied by nausea and vomiting, unsteadiness and acute hearing loss on the left side. Her past medical history consisted of type 2 diabetes and hypertension.

On examination she had spontaneous nystagmus (fast component to the right) which was present in all directions of gaze. The head impulse test was abnormal on the left side. She was deaf in the left ear. Examination of the rest of the cranial nerves and peripheral nervous system was normal. She was unable to walk without assistance.

What is the most likely diagnosis?

A Acoustic neuroma
B Migraine
C Stroke
D Transient ischaemic attack
E Vertebral artery dissection

Question 7

A 65-year-old woman was admitted after a second attack of severe attack vertigo. She described waiting at the bus stop, then experiencing a pressure and a 'rushing sound' in her left ear before developing symptoms of vertigo. She vomited and also had diarrhoea and was unable to stand up. Eye-witnesses called an ambulance. On examination she was nauseated and extremely dizzy whenever she moved. She had a spontaneous nystagmus (fast component to the right), had reduced hearing in the left ear, had a normal head impulse test and no other abnormality on examination of the cranial nerves or peripheral nervous system. She was unable to walk.

Her past medical history included COPD for which she took inhalers, and she wore a hearing aid in her left ear. She had also attended a Falls Clinic in the preceding 12 months for unexplained falls, during which she would suddenly lose her balance. A falls assessment, 12-lead ECG, tilt test and carotid sinus massage had been normal.

What is the most likely diagnosis?

A Meniere's syndrome
B Migraine
C Perilymphatic fistula
D Stroke
E Vestibular epilepsy

Question 8

A 75-year-old woman was admitted following a fall. During an assessment of her fall she complained of balance problems and dizziness whenever she looked upwards, for example, to hang laundry on her washing line outside.

Her past medical history comprised hypertension, mild angina and diet controlled diabetes for which she was taking aspirin 75mg daily and amlodipine 10mg daily. She also had osteoarthritis of the knees. On examination, her gait and balance and neurological examination was normal and there were no injuries.

What is the recommended management in this case?

A Betahistine
B Epley manoeuvre
C Referral to neurology
D Referral to thoracic surgery
E Soft collar of the neck

Question 9

A 50-year-old man was referred to the Ambulatory Care Centre with after a 'funny turn'. He described sitting at a desk when he felt his peripheral vision disappear and he felt 'swimmy-headed'. He felt disorientated and sweaty and one of his co-workers asked him if he was alright, remarking that he had gone pale. The attack lasted around a minute.

His past medical history comprised type 2 diabetes on metformin and a non-ST elevation myocardial infarction 5 years before. He was taking aspirin 75mg daily, bisoprolol 10mg daily, rampril 10mg daily, and atorvastatin 40mg at night. He was normally very active, fit and well.

The results of a full blood count, urea and electrolytes, glucose, and troponin T at presentation and 3 hours later were normal. There was no postural drop in blood pressure.

A 12-lead ECG was performed (see attached image).

What is the next best investigation in this case?

A Ambulatory blood pressure
B Ambulatory ECG
C Carotid sinus massage
D Echocardiogram
E Tilt test

Question 10

An 80-year-old woman was admitted to the Acute Medical unit following a fall for further assessment by a multi-disciplinary team prior to discharge home. She reported several falls in the preceding 12 months with no fractures. During the falls assessment she reported dizziness that was present all the time in any posture. She said that whenever she turned her head quickly 'everything moved', she stated that her balance was 'wrong' and her head felt 'fuzzy all the time'. She reported that rarely left the house because she felt particularly sick and dizzy in the supermarket and could not negotiate the escalator at the entrance of her local shopping centre. She admitted feeling very depressed about her situation.

Her past medical history included osteoarthritis and hypertension, for which she was taking paracetamol and bendroflumethiazide. She had no past history of migraine or headaches and no hearing problems. Her symptoms had been present for 5 years since a single attack of prolonged vertigo for which she was briefly admitted to hospital and told she had 'viral labrynthitis'.

On examination she had good uncorrected vision, normal eye movements, an abnormal head impulse test on the right, and a negative Hallpike manoeuvre. The cranial nerves and the rest of the clinical examination was normal. There was no postural drop in blood pressure.

Results of a full blood count, urea and electrolytes, glucose, C-reactive protein, thyroid function and B12 were normal. A 12-lead ECG was normal. A CT of the head was also normal.

What is the most likely diagnosis?

A Benign paroxysmal positional vertigo
B Cerebrovascular disease
C Migrainous vertigo
D Multi-factorial dizziness of the elderly
E Uncompensated vestibular disorder

Answers

Question:

1. A
2. D
3. D
4. D
5. C
6. C (partial AICA infarct)
7. A
8. B
9. B
10. E