MRCPUK SEND Exam

Volume: 200 Questions

Question No : 1
A 24-year-old woman was referred with an 18-month history of worsening hirsutism, primarily on her face, but also new hair growth on her chest. She was shaving weekly. She had always been overweight, but had recently gained 5 kg and her body mass index was 31 kg/m2 (18–25). Her periods were regular.
What is the most relevant next investigation?

A. overnight dexamethasone suppression test (after 1 mg dexamethasone)

B. plasma thyroid-stimulating hormone

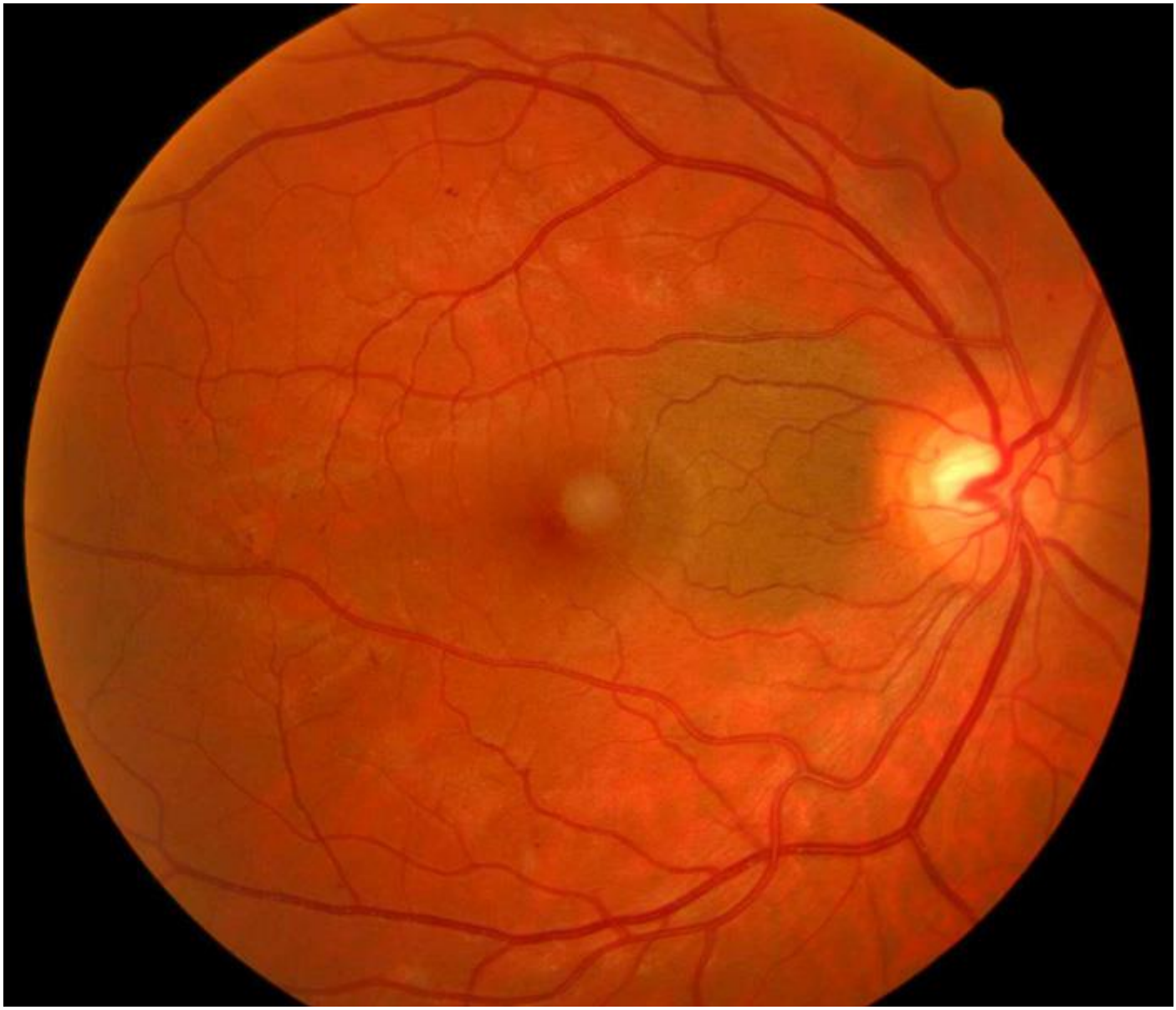
C. serum 17-hydroxyprogesterone

D. serum dehydroepiandrosterone

E. serum testosterone

Answer: E

Question No : 2
A 17-year-old boy with a 7-year history of type 1 diabetes mellitus was transferred to the adolescent diabetes clinic. He had a history of poor clinic attendance. He admitted to having lost weight recently. His eyes had been photographed by a community ophthalmologist 1 week previously. A photograph of the right fundus is shown (see image).



Investigations:
haemoglobin A1c104 mmol/mol (20–42)
What is the most likely explanation for the retinal appearance?

A. benign choroidal naevus

B. drusen

C. macular oedema

D. preproliferative diabetic retinopathy

E. retinitis pigmentosa

Answer: A

Question No : 3
A 26-year-old woman was urgently referred to clinic with a 6-week history of retroorbital headaches and deteriorating vision. Her past medical history was unremarkable, although on questioning she admitted that she had recently found it increasingly difficult to cope with her busy job. On examination, her pulse was 60 beats per minute and regular, and her blood pressure was 110/75 mmHg lying and 90/60 mmHg standing. She was pale and had dry skin. Visual acuities were reduced (6/12 right; 6/24 left), and she had a bitemporal inferior quadrantanopia.
Investigations:
serum sodium132 mmol/L (137–144)
serum potassium4.0 mmol/L (3.5–4.9)
short tetracosactide Synacthen. test (250 micrograms):
serum cortisol (30 min after tetracosactide)185 nmol/L (>550)
plasma follicle-stimulating hormone2.7 U/L
plasma luteinising hormone3.5 U/L
serum prolactin1050 mU/L (<360)
serum thyroid-stimulating hormone0.3 mU/L (0.4–5.0)
serum free T48.0 pmol/L (10.0–22.0)
serum insulin-like growth factor 14.7 nmol/L (7.5–37.3)
MR scan of brainsee image

What is the most likely diagnosis?

A. autoimmune hypophysitis

B. craniopharyngioma

C. non-functioning pituitary adenoma

D. prolactinoma

E. Rathke's cleft cyst

Answer: B

Question No : 4
A 34-year-old man was referred to the diabetes outpatient clinic with impaired glucose tolerance. He had a family history of diabetes mellitus and had a body mass index of 34.6 kg/m2 (18-25).
On examination, his blood pressure was 140/82 mmHg.
He wished to delay the onset of frank diabetes mellitus.
What is the most effective way of achieving this outcome?

A. acarbose

B. lifestyle changes aimed at weight loss

C. metformin

D. orlistat

E. ramipril

Answer: B

Question No : 5
A 75-year-old woman presented with a 4-week history of lethargy. Her medical history was unremarkable and she took no medication.
On examination, her blood pressure was 140/70 mmHg lying. She was euvolaemic.
Investigations:
serum sodium120 mmol/L (137–144)
serum potassium3.8 mmol/L (3.5–4.9)
serum urea3.0 mmol/L (2.5–7.0)
serum creatinine75 µmol/L (60–110)
short tetracosactide (Synacthen.) test (250 micrograms):
baseline serum cortisol450 nmol/L (200–700)
serum cortisol (30 min after tetracosactide)600 nmol/L (>550)
serum thyroid-stimulating hormone2.5 mU/L (0.4–5.0)
serum free T416.9 pmol/L (10.0–22.0)
urinary sodium70 mmol/L
What is the most appropriate initial management?

A. demeclocycline

B. fluid restriction

C. hydrocortisone

D. intravenous sodium chloride 0.9%

E. tolvaptan

Answer: B

Question No : 6
A 43-year-old woman was admitted with right lower lobe pneumonia and was found to have atrial fibrillation. She had a history of bipolar disorder for which she was taking lithium. Her menstrual periods were normal.
Investigations on admission:
serum thyroid-stimulating hormone (TSH)0.98 mU/L (0.4–5.0)
serum free T428.1 pmol/L (10.0–22.0)
serum free T314.2 pmol/L (3.0–7.0)
Assay interference had been excluded.
Subsequent investigations:
serum sex hormone binding globulin64 nmol/L (40–137)
serum thyroid-hormone receptor ?-subunit0.8 IU/L (<1.0)
anti-thyroid peroxidase antibodiesnegative
What is the most likely diagnosis?

A. lithium-induced hyperthyroidism

B. non-thyroidal illness (sick euthyroid syndrome)

C. surreptitious ingestion of thyroxine

D. thyroid hormone resistance

E. TSHoma

Answer: D

Question No : 7
A 48-year-old man was referred by his general practitioner, whose letter stated: ‘Please review this man’s blood pressure management, as he has requested a second opinion, having seen information on the internet about the need for more detailed investigation. He has been having treatment for 10 years.’
At the consultation, the patient confirmed that he was currently taking bendroflumethiazide 2.5 mg daily, atenolol 50 mg daily and perindopril 8 mg daily. His clinic blood pressure was 169/108 mmHg. Clinical examination was otherwise normal.
Investigations:

serum sodium142 mmol/L (137–144)
serum potassium3.9 mmol/L (3.5–4.9)
estimated glomerular filtration rate (MDRD)>60 mL/min/1.73 m2 (>60)
ambulant plasma renin activity0.5 pmol/mL/h (3.0–4.3)
ambulant plasma aldosterone380 pmol/L (330–830)
What is the most appropriate next step in management?

A. add amlodipine

B. CT scan of adrenal glands

C. fludrocortisone suppression test

D. urine steroid profile

E. withdraw atenolol and repeat renin and aldosterone

Answer: E

Question No : 8
A 17-year-old girl was referred to the outpatient clinic with irritability, weight loss and difficulty sleeping. At the age of 4, she had presented with rapid growth, breast development and vaginal bleeding. The results of a gonadotropin-releasing hormone (GnRH) stimulation test performed at that time are given below.
serum oestradiolplasma FSHplasma LH
(200–400 pmol/L)(2.5–10.0 U/L)(2.5–10.0 U/L)
0 min365<0.7<0.5
30 min-<0.7<0.5
60 min-<0.7<0.5
She had been treated with GnRH analogue until the age of 11 and puberty had then progressed normally. On examination, she was found to be tremulous, tachycardic and hyper-reflexic. Several large, irregular café-au-lait spots were found.
Investigations:
serum thyroid-stimulating hormone<0.05 mU/L (0.4–5.0)
serum free T436.0 pmol/L (10.0–22.0)
What is the most likely diagnosis?

A. Carney's complex

B. Cowden's syndrome

C. McCune–Albright syndrome

D. multiple endocrine neoplasia type 2

E. neurofibromatosis type 1

Answer: C

Question No : 9
A 20-year-old woman with Turner's syndrome had heard that there was a risk of ovarian cancer associated with Turner's syndrome. She asked to undergo a pre-emptive oophorectomy.
For what genotype is oophorectomy most likely to be recommended?

A. 45XO

B. 45X/46XX

C. 45X/46Xxi (Xq)

D. 45X/46XY

E. 45X/47XXX

Answer: D

Question No : 10
A 25-year-old man presented with a 2-month history of thirst and polyuria. He had minimal weight loss and his body mass index was 26 kg/m2 (18–25). He had had sensorineural deafness since childhood. There was a very strong family history of sensorineural deafness and type 2 diabetes mellitus.
Urinalysis showed no ketones.
Investigations:
random plasma glucose18.0 mmol/L
What is the most appropriate next step in management?

A. genetic testing for maturity-onset diabetes of the young

B. measurement of glutamic acid decarboxylase antibodies

C. test for HFE genotype

D. test for mitochondrial diabetes

E. water deprivation test to assess posterior pituitary function

Answer: D

Question No : 11
A 62-year-old woman was referred with difficulty in swallowing and a painful, swollen neck. On examination, her neck was tender to palpation with a small, diffuse goitre. There was no associated neck lymphadenopathy.
Investigations:
serum thyroid-stimulating hormone<0.04 mU/L (0.4–5.0)
serum free T426.0 pmol/L (10.0–22.0)
serum free T312.0 pmol/L (3.0–7.0)
What is the most likely diagnosis?

A. Graves' disease

B. haemorrhage into a thyroid cyst

C. subacute thyroiditis

D. thyroid carcinoma

E. toxic adenoma

Answer: C

Question No : 12
A 55-year-old man with mild polyuria and tiredness was seen on a renal ward. He had had a living-related kidney transplant 6 months previously. He had good graft function while being treated with prednisolone 5 mg daily, mycophenolate mofetil 1 g twice daily and tacrolimus 3 mg twice daily. He was also taking atenolol 50 mg daily and simvastatin 40 mg daily.
Investigations:
haemoglobin A1c75 mmol/mol (20–42)
random plasma glucose18.0 mmol/L
Which drug is most likely to be responsible for his diabetes of new onset?

A. atenolol

B. mycophenolate mofetil

C. prednisolone

D. simvastatin

E. tacrolimus

Answer: E

Question No : 13
An 80-year-old man was referred because of weight gain and low mood but said he was otherwise well. He had a complex cardiac history including a ventricular fibrillation arrest and a permanent pacemaker, but he had been very well for the past 3 years. He was taking amiodarone 100 mg daily, lisinopril 40 mg daily and furosemide 80 mg daily.
On examination, he had a pacemaker in situ and his pulse was 84 beats per minute and regular. He had a 2/6 mid-systolic murmur in the aortic area with no radiation, mild ankle oedema, and scanty basal crackles bilaterally on auscultation of his chest.
Investigations (before attending clinic):
serum thyroid-stimulating hormone19.0 mU/L (0.4-5.0)
serum free T411.0 pmol/L (10.0-22.0)
anti-thyroid peroxidase antibodies300 IU/mL (<50)
What is the most appropriate next step in management?

A. review with repeat thyroid tests in 3 months

B. start levothyroxine 25 micrograms daily

C. start levothyroxine 100 micrograms daily

D. start liothyronine sodium 10 micrograms twice daily

E. stop amiodarone

Answer: B

Question No : 14
A 62-year-old woman was admitted with right lower lobe pneumonia. She was taking amiodarone for atrial fibrillation. Routine thyroid function tests were performed.
Investigations:
serum thyroid-stimulating hormone0.3 mU/L (0.4-5.0)
serum free T427.0 pmol/L (10.0-22.0)
serum free T34.2 pmol/L (3.0-7.0)
anti-thyroid peroxidase antibodies32 IU/mL (<50)
What is the most appropriate interpretation of the thyroid function tests?

A. amiodarone effect in a euthyroid patient