Written Examination Practice
Paper – Adult Medicine –
Clinical Applications

ANSWER BOOKLET

December 17, 2016

Princess Alexandra Hospital
Question 1

A 55-year-old man was commenced on phenytoin 7 days ago following multiple seizures and is seizure-free since then. He takes 300mg daily and has the following blood test results taken before his next dose is due:

- Phenytoin level 5 mg/L (reference range 10-20 mg/L)
- eGFR 41 mL/min (>60 mL/min)
- GGT 125 U/L (<38 U/L)
- Albumin 32 g/L (35-45 g/L)

What is the most appropriate dose adjustment for this man’s phenytoin dose?

A. No change
B. Increase to 330mg daily
C. Increase to 200mg twice daily
D. Increase to 300mg twice daily
E. Decrease to 200mg daily

Answer: B. Increase to 330mg daily

Question 2

A 21-year-old man presents with oesophageal food bolus obstruction. He has experienced occasional dysphagia to solids over the past 12 months. He has a history of asthma and eczema but no other medical or surgical history. The most likely diagnosis is:

A. Peptic stricture
B. Oesophageal SCC
C. Eosinophilic oesophagitis
D. Zenker’s diverticulum
E. Multinodular goitre

Answer: C Eosinophilic oesophagitis
Question 3

A 67-year-old man presents with a fever & shortness of breath. He is day 36 post-autologous bone marrow transplant for Multiple Myeloma. He had prolonged neutropaenic sepsis, treated with IV Piperacillin-tazobactam, until count recovery 4 days prior. On examination, he is febrile to 40 degrees, pulse is 112 & regular & blood pressure 126/70. Chest examination is normal. His chest x-ray & CT are below. He has no other significant past medical history. He grew up in the Ukraine & migrated to Australia at the age of 16. His brother had tuberculosis as a child. The man cannot recall any screening for TB. What is the most likely diagnosis?

A. Bacterial pneumonia
B. Invasive Aspergillosis
C. Granulomatous Polyarteritis (Wegener’s)
D. Tuberculosis
E. Pneumocystis infection

Answer: B Invasive Aspergillosis. The patient is at high risk of invasive fungal disease, given haematological malignancy, with prolonged neutropaenia & broad-spectrum antibiotics. The CT changes as classical for invasive fungal disease, with mass-like consolidation & a “halo” of ground-
glass change. The halo represents haemorrhage, from invasive fungal disease. In this case, there is an “atoll sign” (large arrow), with peripheral consolidation & central ground-glass, although has largely the same differentials (organising pneumonia can also have this). This is not entirely specific for fungal infection, but can also be seen in bacterial disease, especially in immunocompromised patients, malignancy or inflammatory conditions, such as vasculitis. Cavitation is not uncommon. This CT actually shows a dilated airspace (small arrow), not able to be distinguished from cavitation on a single slice. Disease can be unilateral or bilateral; bilateral apical disease such as this is uncommon.

Diagnosing disease can be difficult. Aspergillus is a common contaminant at bronchoscopy, although if seen in this setting, should be treated. False negatives are common. Galactomannan assay on bronchoscopy washings is often done, although not extremely well-validated & can be positive in anyone, but especially in patients treated with beta-lactam antibiotics. False negatives are also not uncommon. CT-guided biopsy is the most specific test (apart from resection), although not commonly undertaken in such patients due to thrombocytopenia. Most patients are treated presumptively on the basis of clinical features & a bronchoscopy excluding other pathogens.

Tuberculosis would usually not present with such lesions radiologically. It is always worth considering & can present with mass-like lesions or even lobar consolidation. It is also less likely in this situation, although not impossible. Hopefully, he would have been screened prior to transplantation.

Pneumocystis can present with just about any radiological pattern, although the classical is ground-glass infiltrates. Cavitation is uncommon, although not impossible. While it would warrant consideration, it is less likely in this situation.

GPA could look like this, although the halo is uncommon. It would also be very rare in the post-transplant period.

Bacterial pneumonia is possible, although again unlikely given the radiology.
Question 4

Phyllis, 81 years of age, comes to you today to talk about her medications. She has a history of worsening joint pain in her hips, knees, wrists and shoulders, secondary to generalised osteoarthritis. She also has hypertension and ischaemic heart disease with an acute myocardial infarction 8 years ago, chronic heart failure with atrial fibrillation, osteoporosis with past Colles’ fracture, depression, type 2 diabetes, mild renal insufficiency, chronic obstructive pulmonary disease and a past history of gastro-oesophageal reflux disease. Phyllis is on 15 medications (see list below). She has lost her balance twice recently and fears that she may fall. Phyllis wonders whether some of her drugs are making her unwell and wants to know if she needs to continue taking them.

Alendronate 75 mg weekly  
Amlodipine 5 mg mane  
Carvedilol 12.5 mg bd  
Digoxin 62.5 mg nocte  
Frasemide 80 mg mane  
Gliclazide 80 mg bd  
Isosorbide dinitrate 60 mg mane  
Omeprazole 20 mg bd

What is this patient’s risk of having an adverse drug related event (ADE) contributing to hospitalisation over the next 6 months?

A. 10%  
B. 30%  
C. 50%  
D. 75%  
E. 100%

Answer: B. Based on a review of pharmacoepidemiological data from several observational studies, it was determined that taking 5 or more regular medicines in older patients was associated with an increased risk of ADEs over the following 6 months, presenting as falls, cognitive decline, worsening frailty, confusion or other geriatric syndromes. This risk increased exponentially once patients were taking >8 drugs (polypharmacy) with predicted risk of ADE of at least 30%. The more medicines an individual takes, the greater their risk of experiencing an adverse drug reaction, a drug-drug interaction.

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interaction, a drug-disease interaction, cascade prescribing (where more medicines are added to counteract side effects of existing medicines), non-adherence, and drug errors (wrong drug, wrong dose, missed doses, erroneous dosing frequency).

Gnjidic D, Hilmer SN, Blyth FM, et al. Polypharmacy cutoff and outcomes: five or more medicines were used to identify community dwelling older men at risk of different adverse outcomes. J Clin Epidemiol 2012;65: 989-995.
Question 5
A 75-year-old man has recurrent asymptomatic iron deficiency anaemia. He is on Aspirin, Metoprolol and Omeprazole. He has had no overt gastrointestinal bleeding and no weight loss. Abdominal examination is unremarkable and upper endoscopy with duodenal biopsies and colonoscopy were normal. The next best test is:

A. CT abdomen  
B. Magnetic resonance enterography  
C. Repeat upper endoscopy  
D. Capsule endoscopy  
E. Faecal occult blood test

Answer: D. capsule endoscopy

Question 6
A 43-year-old man presents to the Emergency Department with a 3-day history of fever, productive cough & shortness of breath. Chest x-ray shows right middle lobe consolidation. He has no significant past medical history & is on no medications. Which of the following is the strongest indication for admission to hospital rather than outpatient management?

A. Fever >39 degrees  
B. Multi-lobar consolidation on CXR  
C. Heart rate 130  
D. Systolic blood pressure <90mmHg  
E. SpO2 95% on 2L/min oxygen via nasal prongs

Answer: Blood pressure <90mmHg. There are several risk assessment calculators available for aiding management of community-acquired pneumonia. The easiest is CURB-65 (Confusion, Urea, Respiratory Rate, BP, age >65). One point is scored for each of: New onset confusion (measured in the study with a questionnaire), Blood urea > 20mg/dL, Respiratory Rate >30, BP <90mmHg systolic or 60mmHg diastolic. Patients with a score of 0-1 have a low 30-day mortality & can usually be safely treated as an outpatient. A score of 3-4 should prompt consideration of ICU or HDU management. Subsequent analysis showed that Urea & Diastolic BP added nothing to the scoring system, so can be removed, leaving CRB-65, which is an easy guide.

The Pneumonia Severity Index can be used, although is very time-consuming, so I generally don’t bother. The SMART-COP tool was developed in Australia & is used by Therapeutic Guidelines. It is quite reasonable, although again a little more complicated. Systolic hypotension scores 2 points.
using this tool, so is one of the most important markers (in addition to hypoxaemia & acidaemia). Regardless of which tool is used, it should not replace clinical judgement. Multi-lobar consolidation is a minor criteria for ICU admission in the American College of Chest Physicians guidelines, so is a strong reason for admission to hospital (I wouldn’t send patients with multi-lobar CAP home from ED), although isn’t in any of the guidelines, so is probably not the correct choice. It’s a bit unfair to have this choice, but then lots of exam questions seem unfair to me!

Hypoxaemia is a strong indicator in the SMART-COP tool, scoring 2 points. SpO2 <93% on room air is their criteria. It isn’t clear in this case what the man’s SpO2 is on room air; it could be unchanged off oxygen (some people maintain the same SpO2 on room air as on low-flow oxygen). Therefore, answer E (SpO2 95% on 2L via nasal prongs) is incorrect.

Tachycardia >125 scores a point on the SMART-COP tool, although less than hypotension, so is incorrect.

**Question 7**

Regarding falls risk which of the following statements is incorrect?

A. The risk of falls is increased in patients on class 1 anti-arrhythmic agents
B. Tricyclic anti-depressants increase falls risk more than newer SSRIs
C. There is no proven intervention to reduce falls rates in acute hospitals
D. Long acting benzodiazepines increase falls risk
E. Vitamin D supplementation has not been shown to reduce falls rates

**Answer:** B

**Question 8**

You are referred a 23-year-old man from a GP with a diagnosis of primary hyperparathyroidism. His initial investigations include calcium (corrected)- 2.70mmol/L (2.15-2.60), PTH-4.5pmol/L (1.6-6.9), creatinine-60umol/l, eGFR>90ml/min. He reports his mother has also been told she has hypercalcaemia in the past. What is the next most important investigation?

A. Vitamin D
B. 24 hour urinary calcium excretion
C. Sestamibi scan
D. Bone Scan
E. PTHrp
Answer: B Given the family history need to exclude Familial hypocalciuric hypercalcaemia with a 24 hour urinary calcium. This would cause low urinary calcium excretion with a urinary calcium:creatinine ratio of <0.01

Question 9

Patients with which of the following infections should be managed under airborne precautions?

A. Spinal tuberculosis  
B. Meningococcal disease  
C. Varicella  
D. Zoster  
E. Influenza

Answer: C Varicella

Question 10

When performing exercise stress testing, which of the following is most strongly correlated with severe coronary artery disease?

A. Angina during exercise  
B. Widespread ST depression >1mm  
C. Hypotension  
D. Exercise tolerance <10 METS  
E. ST depression 1 minute into recovery

Answer: C Hypotension
Question 11

A 52-year-old woman presents with increased breathless over several months. She is obese at 96 kg (BMI 33.6 kg/m²). Her lung function shows the following results.

<table>
<thead>
<tr>
<th>Test</th>
<th>Result</th>
<th>Normal Range</th>
<th>Per Cent Predicted</th>
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<tbody>
<tr>
<td>FEV1</td>
<td>1.15</td>
<td>&gt;3.15</td>
<td>28%</td>
</tr>
<tr>
<td>FVC</td>
<td>3.57</td>
<td>&gt;4.02</td>
<td>68%</td>
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<tr>
<td>FEV1/FVC</td>
<td>32%</td>
<td>66-91%</td>
<td></td>
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<tr>
<td>TLC</td>
<td>10.49</td>
<td>5.87-8.42</td>
<td>147%</td>
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<tr>
<td>RV</td>
<td>6.60</td>
<td>1.33-3.21</td>
<td>290%</td>
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<td>DLCO</td>
<td>15.2</td>
<td>22.4-41.2</td>
<td>46%</td>
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<tr>
<td>KCO</td>
<td>2.87</td>
<td>3.34-6.16</td>
<td>60%</td>
</tr>
</tbody>
</table>

Which of the following diagnoses is most likely based on these results?

A. Emphysema  
B. Obesity  
C. Interstitial lung disease  
D. Asthma  
E. Bronchiectasis

Answer: A Emphysema

Question 12

A young woman has post prandial diarrhoea and bloating. She has a mild microcytic anaemia and does not have menorrhagia. She has a history of Type 1 Diabetes Mellitus. Her TTG is negative and she has a low IgA. She felt better on a gluten free diet for the past 3 months. The next best test to exclude coeliac disease would be:

A. DQ2/8 testing  
B. IgG anti Gliadin antibodies  
C. IgG Tissue trans glutaminase  
D. Upper endoscopy and duodenal biopsy  
E. Urea breath test

Answer: D. Upper endoscopy and duodenal biopsy
Question 13

Beverley is 86 years of age and lives alone in low level residential care. She has moderately severe, inoperable aortic stenosis and has had three hospital admissions for decompensated heart failure over the past 12 months. Beverley has no cognitive impairment, has made a will and seems to have adjusted reasonably well to her limited exercise tolerance. You wonder whether you should enter into a conversation with her about advance care planning, in order to give her the opportunity to discuss her options for end-of-life care and potentially avoid overly aggressive intervention and unnecessary hospitalisation. You hesitate to do this as she has given no indication she wants to discuss this and seems happy with the care she is receiving, and both she and her family believe she has a few more years left in her yet. While you doubt she is at imminent risk of dying, knowing all you do about her condition, you would not be surprised if she was to succumb within the next 12 months. How accurate is this ‘no surprise’ prediction in predicting death by this time?

A. 90%
B. 80%
C. 70%
D. 60%
E. 50%

Answer: B. The simple ‘surprise’ question - ‘knowing all I know about this patient, would I be surprised if he/she were to die within the next 12 months?’ - if answered in the negative, has about 80% chance of being correct. While it has been mostly applied in cases of advanced cancer, it seems to apply equally well to any patient with advanced, end-stage disease.

A 26-year-old-man (III-7, arrow) presents with his wife for genetic counselling given a family history of a haematological disorder. His wife is pregnant with twin boys. What is the probability that one of the boys will be affected?

A. 0%
B. 25%
C. 50%
D. 75%
E. 100%

Answer: A 0%. This is an x-linked condition. Males are passing the condition onto only their female offspring. Females are passing the condition onto both males and females. There would be a 50% chance of an affected female passing it onto her children.
Question 15

A patient presents with pain and swelling of hands and has evidence of polyarticular tophaceous gout. Which of the following food items is least likely to cause a flare?

A. Coffee
B. Lamb
C. Seafood
D. Soft drink
E. Wine

Answer: A Coffee

Question 16

A 55-year-old man with past history of hypertension and dyslipidaemia presents to a regional hospital (3 hours from a PCI-capable centre) with severe central chest pain of one hour duration. His ECG reveals 4mm ST elevation in leads V2-V4. He is haemodynamically stable and has no contraindications to thrombolysis. His renal function and full blood count are normal. His weight is 80kg.

In addition to a weight-based dose of tenecteplase, which set of additional medications listed below should be given?

A. Clopidogrel 600mg, IV enoxaparin 30mg, aspirin 300mg, S/C enoxaparin 80mg
B. Aspirin 300mg, IV heparin 4000U, prasugrel 60mg, IV heparin 1000U/hr infusion
C. Ticagrelor 180mg, IV enoxaparin 30mg, aspirin 300mg, S/C enoxaparin 80mg
D. Clopidogrel 300mg, IV enoxaparin 30mg, aspirin 300mg, S/C enoxaparin 80mg
E. Aspirin 300mg, IV heparin 4000U, clopidogrel 300mg, IV enoxaparin 30mg

Answer: D (See https://www.health.qld.gov.au/improvement/pathways/docs/sw547-stemi-pathway.pdf - there is no evidence currently for ticagrelor use in thrombolysis)
Question 17

A 76-year-old woman presents with a two-month history of malaise, headaches, weight loss and widespread aches and pains. On examination, muscle power is intact but she has difficulty standing from the seated position and raising her arms above her head. What is the most appropriate investigation to request?

A. CT brain
B. Electroencephalogram (EEG)
C. Electromyogram (EMG)
D. ESR
E. Isotope body scan

Answer: D. ESR
Question 18

A 23-year-old female patient with Graves' disease attends your clinic for regular follow up. She advises you that she is eight weeks pregnant. She is currently taking Carbimazole 15mg per day. Her current TFTs show a free T4 of 17pmol/L (7-17) and a TSH of 0.2mU/L (0.3-4.5). Which of the following is true?

A. Carbimazole should be changed to PTU for the entire pregnancy
B. Anti-Thyroid peroxidase (TPO) and anti-thyroglobulin (Tg) antibodies should be measured in the third trimester to assess the risk of foetal hyperthyroidism
C. Definitive treatment options for this patient include radioiodine or thyroidectomy
D. PTU should be used for the first 12 weeks of pregnancy and then switched to Carbimazole
E. TSH levels typically increase in the first trimester in normal pregnancy

Answer: D. reference- De Groot et al. Management of Thyroid Dysfunction during Pregnancy and Postpartum: An Endocrine Society Clinical Practice Guideline. 2013. There is an increased risk of fetal malformation with carbimazole compared with PTU. Therefore, PTU should be used during the period of organogenesis and subsequently switched back to carbimazole given the increased risk of liver damage with PTU.

Question 19

A 45-year-old HIV positive man who is an injecting drug user and sex worker presents with headache, fever and seizure.

He is not taking antiretroviral treatment and is co-infected with hepatitis C. His most recent CD4 T-cell count is 45 (3%) and HIV viral load >100 000 copies/mL.

An MRI shows 2 ring-enhancing cerebral lesions.

What is the most likely diagnosis?

A. Cerebral lymphoma
B. Cryptococcus
C. PML
D. Toxoplasmosis
E. HSV encephalitis

Answer: D. Toxoplasmosis
**Question 20**

A 74-year-old lady presents to ED with a 1-week history of increasing shortness of breath on exertion. On examination, she is afebrile. Pulse is 102 & regular. Oxygen saturation is 90% on room air, with a respiratory rate of 20 breaths/minute. She has quiet breath sounds with occasional inspiratory crackles bilaterally. There is no wheeze. A chest x-ray is shown below. Full blood count (shown below) is unchanged compared with previous results. Her past history is notable for Type 2 diabetes controlled with metformin & gliclazide, as well as long-standing rheumatoid arthritis. She has been on methotrexate 10mg weekly with folate rescue & prednisolone 5mg/day for the past 7 years. Her joint disease has been well-controlled for some years. She is an ex-smoker with a 15 pack-year history, having quit 20 years ago. She has no unusual hobbies or interests & no recent travel. She has a pet budgerigar at home, which she has had for some years. In addition to broad-spectrum antibiotics & bronchoscopy with bronchoalveolar lavage, which of the following is the most appropriate?

**FBC:**

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<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
<th>Reference Range</th>
</tr>
</thead>
<tbody>
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<td></td>
</tr>
<tr>
<td>Plat</td>
<td>168 (140-400)</td>
<td></td>
</tr>
<tr>
<td>WCC</td>
<td>3.9 (4.00-11)</td>
<td>0.33 (0.10-1.00)</td>
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<tr>
<td>Neut</td>
<td>2.61 (2.00-8.00)</td>
<td>0.01 (&lt;0.60)</td>
</tr>
<tr>
<td>Ly</td>
<td>0.91 (1.00-4.00)</td>
<td>0.01 (&lt;0.20)</td>
</tr>
</tbody>
</table>

A. Oral prednisolone 1mg/kg & cease methotrexate
B. Methylprednisolone 1g for 3 days, followed by oral prednisolone 1mg/kg & cease methotrexate
C. Haemodialysis to remove methotrexate, followed by oral prednisolone 1mg/kg
D. Trimethoprim/Sulfamethoxazole
E. Oral prednisolone 1mg/kg & remove exposure to the budgerigar
**Answer:** D. Bactrim therapy. The most likely diagnosis is Pneumocystis infection. Although the patient does not meet guidelines for Pneumocystis prophylaxis, she is still at high risk, given longstanding immunosuppression & particularly lymphopaenia. The differentials for diffuse ground-glass infiltrates include other atypical infections (including viral or Mycoplasma), interstitial lung disease due to drugs, rheumatoid arthritis or hypersensitivity pneumonitis, or potentially pulmonary oedema. Methotrexate-induced lung disease is rare, and a meta-analysis in 2015 concluded there was no evidence of increased risk of ILD in patients treated with methotrexate. There are case reports in which methotrexate seems likely to cause ILD, although this is usually soon after introduction. ILD due to rheumatoid is possible, although this is rarely acute & fulminant. Hypersensitivity pneumonitis can present acutely, although is much less common than atypical infection in this situation. If pneumocystis PCR is negative, all of these warrant consideration.

There is often a delay in diagnosis of Pneumocystis pneumonia in this group of patients (older, with long-standing moderate immunosuppression). It tends to carry a poor prognosis in this group, especially if picked up late. It should be noted that the PCR titre cutoff displayed on AUSLAB is for induced sputum in patients with AIDS. The cutoff is not known for other immunosuppressed patients & is lower. The cutoff on BAL is also not clearly established. Given it is not possible to know for sure what the dilution is on a given BAL, any positive detection should be considered to potentially represent infection.

The use of steroids in addition to Bactrim is not entirely clear in this patient group. Some research suggests there is no additional benefit, although they are commonly used if patients are hypoxaemic.

**Question 21**

Which of the following is NOT an indication for the use of CT coronary angiography?

- A. Evaluation of suspected coronary anomalies
- B. Evaluation of in-stent restenosis
- C. Exclusion of coronary artery disease in idiopathic cardiomyopathy
- D. Assessment of coronary artery bypass graft patency
- E. Investigation of chest pain in intermediate-risk patients

Question 22
JS is a 42-year-old female with asymptomatic hypertension diagnosed one year ago with no other significant medical history. She has been treated with verapamil SR 90mg bd, hydralazine 25mg bd and irbesartan 75mg daily by her GP. Her blood pressure is now 138/92. You would like to perform complete secondary screening investigations. What change(s) if any would you make to her medication(s) to allow meaningful more interpretation of aldosterone and renin results?

A. Cease irbesartan and hydralazine and replace with irbesartan/HCT
B. Cease irbesartan and uptitrate remaining medications
C. Cease irbesartan and verapamil and uptitrate hydralazine
D. Cease verapamil and hydralazine and upitrate irbesartan
E. Make no changes to her medications and proceed with investigations

Answer: B. Cease irbesartan and uptitrate remaining medications

Question 23
Regarding idiopathic Parkinson’s disease:

A. Incidence and prevalence rise with age into the 9th decade
B. Coincidence in a family by chance is very rare
C. MPTP intoxication causes the same pathology
D. Paralysis of vertical and lateral gaze is common
E. Apo-morphine infusion is well tolerated to manage on/off effects and dyskinesia

Answer: A
Question 24

A 25-year-old man presents to an emergency department with a 3 week history of severe headaches associated with nausea and vomiting. His MRI is pictured below. Blood tests show a TSH of 0.3mU/L (0.3-4.5), Free T4 of 3pmol/L (7-17), Cortisol of 100nmol/L, Na- 132mmol/L (135-145), K- 3.7mmol/L (3.5-6), Prolactin- 750mU/L (<500), Testosterone-5nmol/L, FSH- 6 U/L (1-8), LH- 4 U/L (1-12).

What is the next step in management?

A. Commence Hydrocortisone
B. Perform a short synacthen test
C. Commence Thyroxine
D. Prescribe Cabergoline
E. Commence testosterone replacement

Answer. A. The patient presents with symptoms suggestive of cortisol insufficiency. The morning cortisol is low at 100nmol/L and hyponatraemia is also consistent with cortisol insufficiency. The patient also has central hypothyroidism with a low free T4 and low-normal TSH. However, cortisol insufficiency must be corrected first as giving thyroxine will enhance the metabolism cortisol and could result in an adrenal crisis. The tumour is a macroadenoma. Therefore a prolactin of 1.5 x the upper limit of normal is consistent with stalk effect rather than a prolactinoma therefore cabergoline is not indicated.
Question 25
Which of the following is not a diagnostic criteria for severe malaria?

A. Fever >39  
B. Hypoglycaemia  
C. Parasite count >2%  
D. Renal impairment  
E. Haemoglobinuria  

Answer: A. Fever >39

Question 26
The risk of which of the following malignancies is increased in a patient with rheumatoid arthritis being treated with an anti-TNF inhibitor?

A. AML  
B. Breast cancer  
C. Colorectal cancer  
D. Non Hodgkin Lymphoma (NHL)  
E. Non melanoma skin cancer  

Answer: E. Non melanoma skin cancer

Question 27
You are asked to see a 40-year-old man with a 2cm adrenal lesion detected incidentally on an abdominal CT. When you review the patient they have a blood pressure of 145/90. They are obese with a few light purple striae. You want to exclude Cushing’s syndrome. What is the most appropriate initial investigation?

A. Early morning cortisol  
B. 1mg Dexamethasone suppression test  
C. Short Synacthen Test  
D. 8mg Dexamethasone suppression test  
E. 24 hour urinary free cortisol
Answer: B. To detect mild Cushing’s a dexamethasone suppression test is recommended in investigation of an adrenal incidentaloma. A 1mg dexamethasone suppression test is used as a screening test.

Reference- Nieman et al. The Diagnosis of Cushing’s Syndrome: An Endocrine Society Clinical Practice Guideline

Question 28

A 23-year-old man presents with sudden onset of shortness of breath and mild chest pain following a ‘pop’ while in the shower. He gives a history of smoking 15 cigarettes per day for the last 7 years and is not known to have any medical problems. His observations are as below: BP 126/78 mm Hg; HR- 88/min; SPO2 on Room air- 94%. He is comfortable at rest. His chest x-ray shows the following abnormality. How will you manage this patient?

A. Reassure and discharge with outpatient follow up in 4 weeks' time.
B. Chest tube insertion
C. Pleural aspiration
D. Refer to surgeons for VATS pleurodesis
E. Talc pleurodesis
Answer: C

Reference: BTS guidelines, 2010

A. Reassure and discharge with outpatient follow up in 4 weeks' time. Some patients with large effusions can be managed conservatively with observation and oxygen in hospital until improvement is noted if they have no or minimal symptoms. This patient has a large Pneumothorax and some associated symptoms. Discharge of the patient is not advised at this stage as there is a risk of the Pneumothorax getting worse.

B. Chest tube insertion is recommended in the presence of haemodynamic instability or bilateral Pneumothoraces. In this case, pleural aspiration could be trialled.

C. Pleural aspiration is the recommended management in these patients.

D. Refer to surgeons for VATS and pleurodesis. Video-assisted thoracoscopic surgery (VATS) is effective in the treatment of spontaneous pneumothorax. However, surgery is not indicated in all with first primary spontaneous pneumothorax. Some of the indications include persistent air leak despite adequate tube drainage, patients with recurrent ipsilateral or first contralateral pneumothorax, synchronous pneumothoraces, or a spontaneous hemorhax, as well as those with job restrictions (e.g., divers, airline pilots). Minimally invasive VATS allows stapling of blebs and bullae using an Endostapler, laser ablation, or electrocoagulation. Pleurodesis can be induced mechanically with pleural abrasion or partial

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pleurectomy). Recurrence rates after VATS are less than 5%, and this technique is associated with shorter hospital stays and recovery time than with open surgery.

E. Talc pleurodesis- Failure rates around 10–20% and some concern about the long-term safety of intrapleural talc; therefore it is not recommended in younger patients

Question 29

A 27-year-old female presents for urgent outpatient assessment at the request of her general practitioner (GP) for advice about her medications at 9 weeks gestation during her first pregnancy. She has a known history of a familial dilated cardiomyopathy. LVEF has improved from 35% at diagnosis 2 years ago to 45% on medical therapy. She is currently taking bisoprolol 2.5mg, perindopril 5mg and spironolactone 12.5mg. On examination today she is comfortable at rest with blood pressure of 130/60, heart rate is 64 bpm and she is clinically euvolaemic and in sinus rhythm. Haemoglobin, renal function, potassium and thyroid function tests are within the normal ranges. She is working in retail and walks to and from work each day with no shortness of breath or chest discomfort. You are happy with her clinical progress. How would you advise her GP regarding her medications?

A. Continue current therapy as the patient is stable with NYHA I symptoms with regular follow-up at the cardiology outpatient department and a referral to obstetric medicine
B. Cease all current therapy and monitor patient with regular follow-up with cardiology and urgent review with obstetric medicine
C. Cease spironolactone, continue perindopril and bisoprolol at current doses
D. Cease spironolactone and perindopril, continue bisoprolol at current dose and consider adding hydralazine and a nitrate
E. Increase bisoprolol to 5mg as heart rate increases in pregnancy, switch perindopril to candesartan and cease spironolactone

Answer: D ACEI/ARB/spiro contraindicated due to teratogenicity. Beta blockers/ hydralazine and nitrate combination both have survival benefit
Question 30

DM is a 40-year-old male with a 7 year history of hypertension. His GP has referred him to you for worsening hypertension while on verapamil SR 120mg bd, hydralazine 50mg bd and prazosin 4mg bd. His father and sister also have hypertension of relatively early onset. Results of his secondary hypertension work up are as follows:

Na 140 mmol/L
K 6.1 mmol/L
HCO3 20 mmol/L
Urea 6.2 mmol/L
Cr 78 mcgmol/L
eGFR 85 mL/min
CCa 2.35 mmol/L
Phos 1.1 mmol/L
Mg 0.92 mmol/L
ESR 5 mm/Hr

Aldosterone 360 pmol/L
Renin <2 mU/L
Aldosterone/renin ratio >180 (<55)
Normetadrenaline (free) 860 pmol/L (<900)
Metadrenaline (free) 300 pmol/L (<500)
3Methoxy Tyramine 90 pmol/L (<110)

1mg DST
ACTH 14 ng/L (10-50)
Cortisol 360 → 52 nmol/L (<50)

Renal Artery Doppler Ultrasound
<60% stenosis of left renal artery; normal resistive indices and acceleration times bilaterally.

MAG3 (pre and post captopril)
No haemodynamically significant renal artery stenosis. Differential functions of 52% on the right and 48% on the left. Normal parenchymal signals.

Urine ACR 0.3 g/mol creat

What is the most likely cause of DM’s hypertension?

A. Primary aldosteronism
B. Cushing’s syndrome
C. Unknown (“essential” hypertension)
D. Gordon syndrome
E. Renovascular hypertension
Answer: D. Gordon syndrome or pseudohypoaldosteronism type 2 is an inherited syndrome of hyperkalaemia, volume expansion, hypertension and otherwise normal renal function. Hyperkalaemia excludes primary aldosteronism as a cause.

Question 31

Which of the following statements regarding the treatment options for dementia are correct?

A. Cholinesterase therapy slows the progress of Alzheimer’s dementia
B. The cholinesterase inhibitors can worsen continence due to detrusor instability
C. Cholinesterase inhibition can be safely ceased for a period and restarted (i.e. a drug holiday)
D. Should be ceased on entry to residential care
E. Are ineffective in patients with Lewy Body dementia

Answer: B. The cholinesterase inhibitors can worsen continence due to detrusor instability

Question 32

A 36-year-old woman presents to the Emergency Department with a one-day history of vomiting and upper abdominal pain following one week of lethargy and anorexia. She has a background of type 2 diabetes mellitus, obesity and depression. Her current medications include Metformin XR 2 gm daily, Gliclazide MR 120 mg daily, Dapagliflozin 10 mg daily, and Sertaline 200 mg daily. Finger-prick blood glucose level is 11.3 mmol/L with ketones of 6.1 mmol/L. What is the most likely cause of her current presentation?

A. Biliary colic
B. Euglycaemic diabetic ketoacidosis
C. Pancreatitis
D. Starvation ketosis
E. Latent autoimmune diabetes of adulthood

Answer: B. Euglycaemic diabetic ketoacidosis in the setting of SGLT2 inhibitor therapy
Question 33

Which of the following are unlikely to reduce the rate of healthcare-associated *S. aureus* bloodstream infection?

A. Using chlorhexidine as skin prep for insertion of IV devices
B. Aseptic technique for accessing IV devices
C. Adherence to hand hygiene
D. Replacement of PIVCs when ‘clinically indicated’ rather than routinely
E. A secure and intact dressing over the insertion site of an intravascular device

**Answer:** D. Replacement of PIVCs when ‘clinically indicated’ rather than routinely

Question 34

A 40-year-old woman with acute lymphoblastic leukaemia has been neutropaenic for the last 10 days (following chemotherapy). She was started on piperacillin–tazobactam 5 days ago for new fevers; no clinical focus of infection has been identified and blood cultures have been negative. She has ongoing fevers to 39 daily. What is the next best step?

A. Change antibiotics to Meropenem
B. Add Vancomycin
C. Add Gentamicin
D. Remove PICC line
E. Request a CT chest/sinus

**Answer:** E. Request a CT chest
You review a 35-year-old man in your clinic. He advises you he has a history of a left adrenal phaeochromocytoma that was removed two years ago. On further questioning he reports a family history of hypertension and states his brother has recently been diagnosed with a brain tumour. On examination you note abnormal patches of skin on his back. You are considering genetic testing. A mutation in which of the following genes is most likely?

A. RET  
B. VHL  
C. MEN 1  
D. NF 1  
E. TMEM 127

**Answer:** D.

The patient’s young age at diagnosis is an indication for genetic testing. The lesions on the back are consistent with café au lait spots which are characteristic of neurofibromatosis type 1. This is an
autosomal dominant disorder characterised by neurofibromas, multiple café au lait spots, axillary and inguinal freckling, iris hamartomas (Lisch nodules), CNS gliomas (note the history of a brain tumour in the patient’s brother), phaeochromocytoma and paraganglioma, macrocephaly and cognitive defects.

A. RET mutation is MEN type 2. This is characterised by medullary thyroid cancer in all patients, phaeochromocytoma in 50% and primary hyperparathyroidism.

B. VHL syndrome is associated with phaeochromocytoma (frequently bilateral), paraganglioma, haemangioblastoma (cerebellum, spinal cord or brainstem), retinal angioma, clear cell renal cell carcinoma, pancreatic neuroendocrine tumours, endolymphatic sac tumours of the middle ear, serous cystadenomas of the pancreas, papillary cystadenomas of the epididymis and broad ligament.

C. MEN1 is associated with primary hyperparathyroidism, pituitary and pancreatic tumours

D. NF 1

E. TMEM127 mutation is associated with familial phaeochromocytoma.
Question 36
A 60-year-old female with a history of varicose veins presents with right leg cellulitis. After two days of treatment with IV flucloxacillin the erythema is not improving although her temperature and white cell count have normalised. What would be the appropriate management?

A. Change antibiotics to Vancomycin
B. Change antibiotics to Lincomycin
C. Obtain a surgical consult
D. Change to oral antibiotics and reassure
E. Continue to complete five days of IV Flucloxacillin

Answer: D Change to oral antibiotics and reassure

Question 37
A 55-year-old man is referred with a history of dysphagia. Barium swallow reveals:

What is the most likely diagnosis?

A. Oesophageal cancer
B. Barrett’s oesophagus
C. Oesophageal spasm
Question 38

A 76-year-old woman sees you in outpatient clinic for symptoms of tiredness and intermittent palpitations. A screening ECG shows atrial fibrillation at 90bmp. Her background includes hypertension, macular degeneration and a transient ischemic attack several years ago. She lives independently in the community, her husband suffered an intracerebral haemorrhage on warfarin and she refuses to consider taking it. Her weight is 70kg, BP 135/80, serum creatinine 160umol/L (CrCl 29ml/min) normal LFTs and haemoglobin. A previous transthoracic echocardiogram reported normal left ventricular function and no significant valvular pathology.

Which of the following medications is the most appropriate for her to prevent cardioembolic stroke?

A. Apixaban 5mg b.d.
B. Apixaban 2.5mg b.d
C. Rivaroxaban 20mg daily
D. Rivaroxaban 15mg daily
E. Dabigatran 150mg b.d.

Answer: B
Question 39

A 62-year-old patient with metastatic prostate cancer is seen in clinic, and complains of severe back pain. He hasn’t been able to sleep for the last 3 days and his wife states that he is having difficulty walking. He is currently taking OxyContin 50mg b.d which was last increased 4 weeks ago, in addition to Endone 10mg at least five times a day. You decide he needs admission and conversion to parental analgesia whilst the aetiology of his back pain is investigated. What is the most appropriate initial dosing of his analgesia when converting from his current oral dose?

A. 15mg morphine / 24 hours subcutaneous infusion with 5mg s.c morphine breakthrough every 2hrs PRN
B. 50mg morphine / 24 hours subcutaneous infusion with 5-10mg s.c morphine breakthrough every 2hrs PRN
C. 100mg morphine / 24 hours subcutaneous infusion with 20mg IV morphine breakthrough every 2 hrs PRN
D. 150mg morphine / 24hours subcutaneous infusion with 10mg s.c morphine breakthrough every 4-6 hours
E. 150mg morphine / 24hours IV infusion with 10mg IV morphine breakthrough every 4-6 hours

Answer: B
Question 40

An 83-year-old grandmother presents with dyspnoea, progressive over 18 months. She has a past history of hypertension and obesity with a body mass index of 35kg/m². Current medications are aspirin and candesartan. Respiratory function tests show an FEV1 1.29 (70%), FVC 2.5L (60%), DLCO 9.6 (35%), KCO 8.5 (35%). Haemoglobin is 125g/L. A CT chest demonstrates no parenchymal changes, however enlarged pulmonary trunk relative to the aorta. Echocardiogram shows a dilated left atrium, left ventricle is thickened with increased LV mass LV EF 55%, E/E’ 18; right ventricular systolic pressure is elevated at 55mmHg. A right heart catheterisation is performed mRAP 8mmHg, mPAP 42mmHg, PCWP 18mmHg, PVR 3WU, CI 2.1L/min/m².

The most likely diagnosis is

A. Mild chronic obstructive pulmonary disease
B. Idiopathic pulmonary arterial hypertension
C. Pulmonary hypertension secondary to left ventricular disease
D. Pulmonary hypertension secondary to chronic lung disease

Answer: C. This lady is a classic case of heart failure with preserved ejection fraction (HFrEF) with secondary pulmonary hypertension. Older age, female, obesity, chronic hypertension are the historical clues. Echocardiogram with an enlarged LA and signs of diastolic impairment are also in keeping with his. Right heart catheter shows raised pressure but an elevated wedge pressure, indicating left ventricular disease.

Question 41

You are asked to review an 85-year-old gentleman who presents to ED from a residential care facility. He has been referred with nocturnal disturbance which is disturbing other residents since he was admitted three weeks previously. He has been sleeping poorly and pacing the corridors at night. He has recently lost 5 kg of weight with reduced appetite. His MMSE is 24/30. The most appropriate initial management is:

A. Pantoprazole 40 mg daily
B. Risperidone 0.5 mg nocte
C. Temazepam 10 mg nocte
D. Citalopram 10 mg daily
E. Donepezil 5 mg daily

Answer: D Citalopram 10mg daily
**Question 42**

A 19-year-old man is referred to your clinic for investigation of delayed puberty. Initial investigation reveals a serum testosterone level of 0.7 nmol/L (10-30) with LH of 6 IU/L (1-10) and FSH of 7 IU/L (1-10). Remainder of pituitary profile is normal. What is the most appropriate investigation?

A. Karyotype
B. MRI pituitary
C. Testicular biopsy
D. CFTR mutation analysis
E. Y chromosome microdeletion

**Answer:** B. MRI pituitary. The picture is consistent with hypogonadotropic hypogonadism with an inappropriately normal FSH and LH in the setting of a very low testosterone level. This is suggestive of a pituitary (or hypothalamic) pathology and therefore pituitary investigations would be first line in this case (pituitary MRI).

**Question 43**

A 70-year-old man presents with 2 months of headaches and the more recent onset of blurred vision and confusion.

His CSF shows: Leucocytes 80-100% mononuclear
Protein 440 (150-500)
Glucose 0.5 (2.2-3.9)

Which of the following tests is most likely to be diagnostic?

A. HSV PCR
B. Enterovirus PCR
C. Cryptococcal Antigen
D. Cytology
E. Auto-antibodies

**Answer:** C Cryptococcal antigen
**Question 44**

A 47-year-old man being worked up for liver transplantation for known non-alcoholic fatty liver disease is found to be hypoxic. He has a CT chest which shows pulmonary arteriovenous malformations but no evidence of pulmonary emboli. A shunt study is performed and shows a calculated shunt fraction of 12%. On abdominal ultrasound there is no evidence of cirrhosis or splenomegaly and the hepatic portal venous pressure is 8mmHg.

What is the most likely diagnosis?

A. Portopulmonary syndrome  
B. Pulmonary embolism  
C. Invasive aspergillosus  
D. Hepatopulmonary syndrome

**Answer: D.**

This is more in keeping hepatopulmonary syndrome than portopulmonary syndrome given the presence of shunt, hypoxia and pulmonary AVMs.

See a good review Porres-Aguilar et al Eur Resp Rev 2012 125:223-233

Features of hepatopulmonary syndrome are

(i) arterial deoxygenation with a Pa-aO2 gradient  
(ii) it can occur in chronic liver disease with or without cirrhosis and  
(iii) there are intrapulmonary vasodilation with pulmonary arteriovenous malformation

Portopulmonary syndrome is defined as

(i) presence of portal hypertension (either inferred from the presence of spluomegaly, thrombocytopenia, portosystemic shunts, oesophageal varicies or portal vein abnormalities or confirmed by haemodynamic measurements), but not necessarily the presence of cirrhosis  
(ii) haemodynamic measurements from RHC, mPAP >25mmHg, PCWP < 15mmHg, PVR >3WU.
Question 45

A 65-year-old man with a background of obesity, hypertension and type 2 diabetes mellitus presents for review of peripheral oedema. He is maintained on perindopril 10 mg daily, amlodipine 10 mg daily and NovoMix 35 units BD. He is found to have 4 g proteinuria on 24 hour urine collection. Bloods demonstrate sodium 132 mmol/L, potassium 4.2 mmol/L, eGFR 60, albumin 24 g/L. What is the most likely histological finding on renal biopsy?

A. IgA nephropathy
B. Membranous glomerulonephritis
C. Amyloidosis
D. Focal segmental glomerulosclerosis
E. Minimal change nephritis

Answer: D. Focal segmental glomerulosclerosis. FSGS
Question 46
You are asked to review a 68-year-old lady with recently diagnosed metastatic renal cell carcinoma in the emergency department. She was commenced on Pazopanib (Tyrosine Kinase Inhibitor) as first line therapy last week, and describes a 5 day history of progressively worsening thoracic and lumbar back pain, associated with lower limb weakness and difficulty walking. She denies any history of falls or recent trauma, but on further questioning she reveals an episode of urinary incontinence. On examination her neurological examination reveals pyramidal weakness and brisk reflexes in the lower limbs. Her plantar reflexes are extensor. The magnetic resonance imaging (MRI) scan of her spine is shown below.

The most appropriate next step in management is:

A. Radiotherapy
B. Change her TKI therapy to chemotherapy
C. IV steroids
D. Pamidronate
E. Surgical decompression

Answer: C. IV steroids are first line
Question 47

A 68-year-old, retired pilot returns to see you 3 months following an inferior MI treated with angioplasty. Her other medical conditions are T2DM, HTN, PVD and diverticulitis. She is free of angina and exercise tolerance has returned to normal. However she is experiencing bilateral muscle aches not related to exercise and is concerned these are due to her atorvastatin (80mg) initiated post-MI. Recent blood tests with her GP show: Hb 140, WCC 5.9, creatinine 83, CK 151 U/L (51-145 U/L), normal liver enzymes and ESR 6mm/hr.

What is the most appropriate initial strategy with respect to her statin?

A. Education about benefits of statins and persist with current therapy
B. Reassess symptoms after 2-4 weeks without statin therapy
C. Change atorvastatin to ezetemibe
D. Trial of Co-enzyme Q10
E. Switch atorvastatin to alirocumab

Answer: B (See http://eurheartj.oxfordjournals.org/content/early/2015/02/18/eurheartj.ehv043 - For patients with statin associated muscle symptoms (where a definite indication for statins exists) a 2-4 week washout period is suggested followed by trial of a second statin at usual dose)

Question 48

A 26-year-old female with known idiopathic pulmonary arterial hypertension is reviewed in clinic and has been stable on dual therapy for 12 months (bosentan and sildenafil). A right heart catheterisation 12 months ago demonstrated mRAP 8mmHg, mPAP 58mmHg, PCWP 10mmHg, PVR 4.5 WU and CI 1.86L/min/m². She asks about pregnancy risks, given she has been stable on therapy for a year now.

What would be the appropriate advice regarding pregnancy risks

A. Pregnancy would be high risk despite improvements on therapy and dual contraception (barrier and pharmacotherapy) is advised
B. Pregnancy would be low risk given her improvements on therapy but she would need to cease bosentan given it is teratogenic
C. Is contraindicated given high risk of having a child with pulmonary hypertension
D. Can be considered in the next 12 months

Answer: A. Pregnancy would high risk given the diagnosis generally. In addition this lady has poor prognostic features on her RHC (CI < 2.5).
Generally mortality in patient with PAH is ~30%, 30% in patients with pulmonary hypertension associated with Eisenmenger syndrome and 56% in patients with PAH associated with other conditions such as anorexigen use, liver disease, connective tissue diseases and pulmonary thromboembolic disease.

Further endothelin receptor antagonists are teratogenic and contraindicated in pregnancy.

Dual methods of contraception are advised due to Cyp3A4 induction of hormonal contraceptives, resulting in failure of hormonal contraception. This is not the case with all ERA (ambrisentan and macitentan). Oestrogen based OCP as less favoured due to the venothromboembolic complications which can have considerable impact in PAH patients.

**Question 49**

Which of the following is **not** a predictor of poor outcome in paracetamol overdose?

A. Renal failure  
B. Coagulopathy  
C. AST>1000 U/L at presentation  
D. Encephalopathy  
E. Metabolic acidosis

**Answer:** C. Transaminase levels do not predict outcome.

**Question 50**

You are asked to see a 50-year-old woman with osteoporosis. Her BMD shows a T score of minus 2.6 at the lumbar spine and minus 2.3 at the femoral neck. She has a family history of osteoporosis in her mother. She had a hysterectomy for menorrhagia at age 48 and reports ongoing symptoms of hot flushes. She has not had any fractures. An Xray of the thoracolumbar spine is normal. Vitamin D is 70nmol/L. Her past medical history is significant for Barrett’s Oesophagus. She is otherwise well. What is the most appropriate management?

A. Alendronate  
B. Denosumab  
C. Combined oestrogen and progesterone HRT  
D. Oestrogen only HRT  
E. IV Zoledronic Acid

**Answer:** D. The patient does not qualify on PBS for anti-resorptive therapy for primary prevention. As she has had a hysterectomy she does not require progesterone and therefore oestrogen only HRT would be the most appropriate.
Question 51

Mary Jane is beginning her career as a professional model, but has noted a dramatic and recent reduction in her energy levels. She denies taking diuretics or vomiting. Physical examination is within normal limits. Serum biochemistry reveals: Na 136, K 3.1, Cl 108, HCO$_3$ 19, pH 7.35, Osmo 278, Glucose 5. Her urinary electrolytes are: Na 7, K 22, Cl 84, HCO$_3$ 0, pH 5.6, Osmo 589, Glucose 5. The cause(s) of her electrolyte disturbance is/are:

A. Surreptitious vomiting  
B. Type I renal tubular acidosis  
C. Type II renal tubular acidosis  
D. Surreptitious cathartic abuse  
E. Surreptitious diuretic abuse  

Answer: D. Surreptitious cathartic abuse

Question 52

A 27-year-old female presents with nose bleed and “red spots” on her lower limbs, having noticed easy bruising and heavy menstrual bleeding during the past fortnight.

The full blood count demonstrates haemoglobin 109g/l, white cells 5.9 x 10$^9$/l, platelets 3 x 10$^9$/l. Examination is unremarkable other than confirming bruising and petechiae.

Which of the following investigations will be most useful in coming to a rapid diagnosis?

1) Bone marrow biopsy  
2) Blood film examination  
3) Urea, creatinine and electrolytes  
4) Anti-platelet antibodies  
5) CT scan neck/thorax/abdomen/pelvis  

A. All of the above  
B. 2 & 3  
C. 1, 2, 3 & 4  
D. 1  
E. 2
Answer: B. most likely ITP, but TTP is possible

Bone marrow biopsy has no role in the diagnosis of ITP (unless atypical features) or TTP.

Blood film is critical in ITP to exclude other potential causes of low platelets such as MDS, acute leukaemia, TTP. Red cell fragments are a feature in TTP.

UEC is required to assist in excluding TTP, which is characterised by renal impairment. UEC should be normal in ITP.

Antiplatelet antibodies have low specificity & sensitivity in the diagnosis of ITP and have no role in this setting.

CT scan might be required to exclude an underlying lymphoproliferative disorder in secondary ITP. This is unlikely in a patient of this age and would only be required if clinical features suggested lymphoma.
Question 53

You see a 36-year-old lady at 34 weeks gestation in her first pregnancy. Her pregnancy has been uncomplicated to date. Her blood pressure at this visit is 145/95 on multiple checks. On examination she has lower limb oedema and brisk reflexes. Urine dipstick shows protein +++. What is the most appropriate initial medication?

A. Ramipril
B. Hydrochlorothiazide
C. Irbesartan
D. Amlodipine
E. Methyldopa


Question 54

A 55-year-old man presents to Memory Clinic with self-reported memory complaints. He has a history of obesity, hypertension and hypercholesterolaemia. He notes day-time drowsiness and difficulty coping with his job as an English teacher due to poor concentration. He scores 26/30 on MMSE. The most likely diagnosis is:

A. Depression
B. Mild cognitive impairment
C. Obstructive sleep apnoea
D. Language variant frontotemporal dementia
E. Lewy body dementia

Answer: C Obstructive sleep apnoea
Question 55

A 75-year-old man has recurrent asymptomatic iron deficiency anaemia. He is on Aspirin and Metoprolol and Omeprazole. He has had no overt gastrointestinal bleeding and no weight loss. Abdominal examination is unremarkable and upper endoscopy with duodenal biopsies and colonoscopy were normal. The next best test is:

A. CT abdomen
B. Magnetic resonance enterography
C. Repeat upper endoscopy
D. Capsule endoscopy
E. Faecal occult blood test

Answer: D. Capsule endoscopy

Question 56

A 38-year-old female with recently diagnosed metastatic NSCLC presents with a three day history of shortness of breath, palpitations, chest discomfort, cough and light-headedness. On examination her HR is 110, with a BP of 105/78mmHg which drops to 90mmHg systolic on inspiration. ECG shows sinus tachycardia and the computed tomography (CT) scan of her chest is shown below.

![CT scan of chest](image)

The most appropriate next step in her management is:

A. Admission for palliation
B. Therapeutic thoracocentesis
C. Discussion with cardiology for urgent pericardiocentesis
D. Administration of 40mg IV frusemide and 25mg Metoprolol, followed by admission to a high dependency unit for monitoring
E. Anticoagulation with a heparin infusion

Answer: B
Question 57

A 28-year-old man is found to have a large mediastinal mass. Biopsy of the mass reveals histology of undifferentiated carcinoma.

His prognosis is likely to be better if he has elevation of serum:

A. CA 19-9
B. CEA
C. Beta-hCG
D. CA 15-3
E. CA-125

Answer: C. Elevated Beta-hCG would be suggestive of testicular cancer which would be associated with a better prognosis.
Extended Match Question (EMQ)

Question 58-60

For each presentation, select the antibody most likely to be associated.

A. Anti-centromere
B. Anti-Ro
C. Anti-DNA
D. Rheumatoid factor
E. Anti-CCP
F. Anti-Jo-1
G. Anti-topoisomerase I (anti-Scl-70) antibody

58 60-year-old man with worsening proximal muscle weakness and worsening shortness of breath on exertion with a restrictive pattern on RFTs.

59 A newborn infant presents with neonatal heart block.

60 A 45-year-old woman presents with swelling of the hand and thickening of skin on the chest and abdomen with worsening shortness of breath on exertion and renal impairment.

Answer: 58 (F), 59 (B), 60 (G)