Surgery MCQ's

Questions taken from Lavelle-Jones: Churchill's Mastery of Medicine Surgery 1

Question 1. The following are contraindications to major elective surgery requiring general anaesthesia:

a. A myocardial infarction 12 months ago (False)
b. A preoperative serum potassium of 2.6 mmol/litre in a patient on diuretic therapy (True)

Explanation: The normal serum potassium ranges from 3.5-5.5 mmol/litre. This patient is hypokalaemic (2.6 mmol/litre) and is at risk of cardiac arrhythmia if anaesthesia is induced. The hypokalaemia should be corrected by slow intravenous potassium infusion over 24-48 hours before proceeding to surgery.

c. Previous mitral valve replacement (False)
d. A resolving upper respiratory tract infection (True)

Explanation: Patients with evidence of an upper respiratory infection preoperatively who undergo surgery are at risk of developing major respiratory postoperative complications. Elective surgery should be deferred until any infection is completely resolved.

e. Unsuspected glycosuria on routine ward urine testing (True)

Explanation: This may be the first indication of diabetes in an asymptomatic patient. Surgery tends to elevate blood glucose levels and may precipitate a diabetic coma in a previously undiagnosed diabetic. If unsuspected glycosuria is detected surgery should be deferred until the diagnosis of diabetes has been confirmed or excluded.

Question 2. The following statements concerning fluid and electrolyte balance are correct:

a. Nasogastric aspirates should be replaced volume for volume with 5% dextrose solution (False)
b. 100 mmol potassium are required each day to replace baseline losses (False)
c. Long-standing fluid deficits should be replaced within the first 24 hours (False)
d. Insensible losses are unchanged by fever (False)
e. A total daily intravenous fluid intake of 1500 ml will maintain baseline fluid requirements in a normal individual (False)

Question 3. Enteral nutrition is:

a. Highly thrombogenic (False)
b. Used in patients with the short gut syndrome (False)
c. A potential cause of abdominal cramps and diarrhoea (True)

Explanation: Enteral nutrition is hyperosmolar and can stimulate gastrointestinal motility producing diarrhoea and cramps.

d. More likely to cause septic complications than parenteral nutrition (False)
e. Contraindicated in patients after a cerebrovascular accident (False)

Question 4. An abdominal wound dehiscence:

a. Usually occurs before the fifth postoperative day (False)
b. Frequently recurs (False)
c. Is often fatal (False)
d. Is more common in jaundiced patients (True)

Explanation: Wound healing is impaired in patients with jaundice.

e. Is increased in patients on steroid therapy (True)

Explanation: Steroid therapy impairs wound healing.

Question 5. Aspiration pneumonia:

a. Most commonly affects the left upper lobe (False)
b. Is more frequent following emergency than elective surgery (True)

Explanation: These patients are frequently obstructed or require urgent surgery with limited opportunity for preoperative fasting. The risks of aspiration are increased.

c. Is less likely if cricoid pressure is used during intubation (False)
d. Is aggravated by gastric acidity (True)

Explanation: Gastric acid can cause an intense chemical pneumonitis that after secondary bacterial infection leads to a severe aspiration pneumonia.

e. Is less common in patients with reflux oesophagitis (False)

Question 6. A paraoesophageal hiatus hernia:

a. Is a common cause of gastro-oesophageal reflux (False)
b. Is less common than a sliding hiatus hernia (True)

Explanation: This type of hiatus hernia is relatively uncommon.

c. Is usually repaired through the chest (False)
d. Is lined by Barrett's epithelium (False)
e. Can cause gastric outlet obstruction (True)

Explanation: Large portions of the stomach can slip into the chest causing acute angulation of the gastric outlet and obstruction.

Question 7. The following statements are true concerning gastric carcinoma:

a. It is twice as common in females as in males (False)
b. It is linked to patients with type O blood group (False)
c. It often presents with a major gastrointestinal haemorrhage (False)
d. It is sited mainly on the lesser curvature of the stomach (True)

Explanation: Approximately one half are found in this location.

e. It can metastasise to the ovaries (True)

Explanation: These are known as Krukenberg deposits.

Question 8. Ascending cholangitis:

a. Can cause collapse in the elderly (True)

Explanation: Although rigors, jaundice and fever are the classical triad of symptoms, septicaemia caused by cholangitis can cause collapse in the elderly and must be considered in the differential diagnosis.

b. Is caused by stone impaction in Hartmann's pouch (False)
c. Can be treated endoscopically (True)

Explanation: Cholangitis caused by common bile duct stones or a stricture can be relieved by ERCP coupled with sphincterotomy and stone extraction or endoscopic stenting techniques.

d. Is cured by cholecystectomy (False)
e. Is usually caused by Gram-positive organisms (False)

Question 9. A pilonidal sinus:

a. Is usually congenital (False)
b. Is best treated by primary excision and closure (False)
c. Affects men more than women (False)
d. Often presents as an acute abscess (True)

Explanation: The condition is particularly common in hirsute males.

e. Frequently presents at puberty (True)

Explanation: During this period hair growth and sebaceous gland activity increases.

Question 10. The following points relate to drugs commonly used in vascular disease:

a. Beta blockers can improve muscle blood flow (False)
b. Aspirin reduces cardiac mortality (True)

Explanation: Aspirin has been clearly shown to reduce both the frequency of myocardial infarction and the mortality following infarction.

c. Tissue plasminogen activator is a major cause of acute thrombosis (False)
d. Anticoagulation with warfarin should aim for an INR (international normalised ratio) of > 10 (False)
e. Sensitivity to heparin can cause thrombosis (True)

Explanation: Hypersensitivity to heparin can induce thrombocytopenia; this is an uncommon but extremely important cause of intravascular thrombosis as the treatment is cessation of heparin. Watch out for a platelet count of < 100 000 during prolonged heparin therapy.

Question 11. In patients with cerebrovascular disease:

a. Most strokes are caused by intracerebral haemorrhage (True)

Explanation: Most strokes are caused by intracerebral haemorrhage or infarction; only some are caused by extracranial carotid disease producing thrombosis or embolism.

b. Carotid surgery should always be carried out for stenosis > 50% (False)
c. About one in four stroke patients will die from their initial CVA (True)

Explanation: About 25% of stroke patients will die from their initial CVA.

d. Dizziness is a common symptom of carotid disease (False)
e. Duplex ultrasound is the investigation of choice for carotid disease (True)

Explanation: Duplex ultrasound is the gold standard investigation in carotid disease; it has replaced angiography as the procedure of choice.

Question 12. Deep venous thrombosis:

a. Is best diagnosed clinically (False)
b. Is always preventable by subcutaneous heparin (False)
c. Is common after pelvic surgery (True)

Explanation: A DVT is particularly common after pelvic or major orthopaedic surgery.

d. May lead to venous ulceration in later life (True)

Explanation: A DVT may lead to chronic deep vein insufficiency which may progress to venous ulceration.
e. Should usually be treated with a vena cava filter (False)

Question 13. The following statements relate to prostatic cancer:

a. Prostate cancer is present in most men over 80 years of age (True)

Explanation: But most men have an asymptomatic microscopic focus.

b. A serum PSA greater than 100 [mgr]g/litre suggests skeletal metastases (True)

Explanation: 80% will have a positive bone scan.

c. A serum PSA of 15 [mgr]g/litre is diagnostic of prostate cancer (False)
d. Early disease can often be cured by bilateral orchiectomy (False)
e. Abnormal uptake on bone scan can be disregarded if radiographs of the same area are quite normal (False)

Question 14. The following statements are true of transitional cell carcinoma:

a. Most patients have advanced disease at first presentation, requiring radical treatment (False)
b. It is more common in cigarette smokers (True)

Explanation: Smoking is thought to produce a urinary carcinogen in susceptible individuals.
c. The bladder is affected more frequently than are the ureters (True)

Explanation: 95% occur in the bladder, and the pelvicalyceal system is affected more frequently than the ureter or urethra.

d. Even if there is no evidence of recurrence after 10 years, follow-up is still justified (True)

Explanation: Most authorities support lifelong endoscopic follow-up, since recurrence is not unusual even after 10 years.

e. Carcinoma in situ involving the whole bladder usually runs a long benign course (False)

Question 15. Ureteric obstruction:

a. Is most often caused by calculus (True)

Explanation: 90% of cases are caused by stone.

b. Cannot be caused by calculus if the plain KUB radiograph is normal (False)
c. May be asymptomatic (True)

Explanation: Especially when of gradual onset.

d. Usually causes an increase in blood urea (False)
e. Should always be relieved when complicating advanced pelvic malignancy (False)

Question 16. In patients with fibrocystic breast disease:

a. Axillary lymphadenopathy is common (False)
b. The incidence peaks between 35-45 years of age (True)

Explanation: The incidence of benign breast disease diminishes after the menopause.

c. Symptoms are worse after menstruation (False)
d. Gamma-linoleic acid can improve symptoms (True)

Explanation: Gamma-linoleic acid (evening primrose oil) is useful; the mechanism is unknown.

e. The incidence of breast cancer is doubled (False)

Question 17. Gynaecomastia:

a. Is usually drug-induced (False)
b. Resolves spontaneously in most cases (True)

Explanation: Surgical treatment should be reserved for the few cases that do not resolve within 2 years.

c. Is more common in patients over 25 years of age (False)
d. Can be bilateral (True)

Explanation: The peak incidence is around puberty.

e. Is occasionally caused by hypothyroidism (False)

Question 18. Spontaneous pneumothorax:

a. Occurs in two different patient age groups (True)

Explanation: Primary pneumothorax affects young patients with grossly normal lungs apart from apical air blisters. Secondary pneumothorax occurs in an elderly age group with underlying lung disease and usually large bullae.

b. Can cause mediastinal deviation and compression of the contralateral lung (True)

Explanation: This is the hallmark of a tension pneumothorax.

c. If suspected, a confirmatory chest X-ray should always be taken prior to treatment (False)
d. Is best managed by immediate pleurectomy (False)
e. Is usually associated with structural abnormalities of the lung (True)

Explanation: Usually apical air blebs or bullae.

Question 19. An empyema:

a. Is an intrapleural collection of pus (True)

Explanation: The pus collects within the pleural space.

b. Tends to occur at the apex of the chest (False)
c. Commonly follows an episode of pneumonia (True)

Explanation: Pneumonia or a lung abscess are the most common underlying causes of empyema.

d. Is always pulmonary in origin (False)
e. Is best managed by decortication in all cases (False)

Question 20. The following statements relate to soft tissue injuries:

a. Animal and human bite wounds are heavily contaminated (True)

Explanation: There are a massive number of organisms in the mouth. Broad-spectrum antibiotic cover is essential.

b. Degloving injuries are best treated by simple suturing (False)
c. Crush injuries often result in devitalisation of soft tissues and fracture of bones (True)

Explanation: Diffuse soft tissue and bone and joint injuries are common following a crush injury.

d. Hand lacerations caused by broken glass or a knife are rarely associated with nerve or tendon injuries (False)
e. Haematomas should generally be evacuated urgently (True)

Explanation: This will prevent an expanding haematoma devascularising the overlying skin.

Question 21. Basal cell carcinomas:

a. Frequently occur on limbs (False)
b. Tend to be found in younger females (False)
c. Are very sensitive to radiotherapy (True)

Explanation: Radiotherapy is particularly useful for advanced tumours where underlying deep tissues such as bone are involved.

d. Do not normally metastasise by lymphatic spread (True)

Explanation: They are slow-growing tumours spread by local direct invasion.

e. Generally grow slowly over many years (True)

Explanation: They are slow-growing tumours that are spread by local direct invasion.

Question 22. Malignant melanoma

a. Is the most common malignant skin tumour (False)
b. In its early stages is indicated by bleeding and ulceration in a pre-existing mole (False)
c. Is continuing to show an increase in incidence (True)

Explanation: Incidence continues to increase.

d. Is particularly related to sunburn in childhood (True)

Explanation: This is a high-risk period, even though the tumours do not develop until later in life.

e. In its early stages, is best treated by radiotherapy (False)

Question 23. The following points concern transplant rejection:

a. A blood group A graft placed in a blood group O recipient will not be rejected if there is a good HLA system match between donor and recipient (False)
b. Close HLA class I and II matching is essential if rejection is to be prevented (False)
c. An acute pattern of rejection usually develops within weeks/months of transplantation (True)

Explanation: Hyperacute rejection occurs within minutes of transplantation. An acute rejection response occurs within several months of transplantation.

d. Hyperacute rejection is characterised by severe vascular damage, with thrombosis and endothelial destruction (True)

Explanation: The transplanted organ becomes acutely swollen and tender and ceases to function. Vascular thrombosis and endothelial damage are the key microscopic features.

e. Cellular and humoral mechanisms are responsible for the phenomenon of acute rejection (True)

Explanation: Only hyperacute rejection is mediated predominantly by circulating humoral antibodies.

Question 24. With regard to renal transplantation:

a. Most kidneys can be preserved for up to 24 hours between harvesting and transplantation (True)

Explanation: There is a functional deterioration if transplantation is delayed beyond this time.

b. A 60% survival rate can be expected following cadaveric transplantation (False)
c. The kidney is usually transplanted into a heterotopic site in either the left or right iliac fossa (True)

Explanation: A renal transplant is the most common type of heterotopic transplant.

d. Renal transplant patients are prone to infection with Pneumocystis sp. or cytomegalovirus (True)

Explanation: Opportunistic infections are more frequent in patients following renal or other types of transplant. This is related to suppression of the patient's own immune system by the immunosuppressive agents used to prevent rejection.

e. Diabetic nephropathy can recur in a healthy kidney following transplantation (True)

Explanation: Diabetic nephropathy and some forms of glomerulonephritis can recur in a transplanted kidney. Occasionally repeat transplantation is required.

Question 25. With regard to liver transplantation:

a. Biliary atresia is a common indication for transplantation in adults (False)
b. Multiple transplants can be provided from a single donor liver (True)

Explanation: A split liver transplant, dividing the liver into two anatomical halves corresponding to the left and right lobes of the liver, enables two transplants from one donor.

c. Liver transplantation is an example of an orthotopic transplant (True)

Explanation: The liver is transplanted into its normal anatomical site, i.e. it is an orthotopic transplant.

d. Up to 70% of all transplant patients can expect to live for 1 year after transplantation (True)

Explanation: The immunosuppressive agent cyclosporin has revolutionised the outcome of liver transplantation. Currently 70% of transplanted patients will survive 1 year.

e. Liver transplantation is contraindicated in patients with hepatocellular carcinoma (True)

Explanation: The immunosuppressive agent cyclosporin has revolutionised the outcome of liver transplantation. Currently 70% of transplanted patients will survive 1 year.