

AVT 09 PRE COURSE EXAM 1 MCQ

Candidate: _____ Name: _____
Class: _____

You have 2.5 hours to complete this paper

LONG ANSWER QUESTION (1 HOUR)

A 65 year old man with a history of unstable angina is admitted to hospital with a partial bowel obstruction secondary due to a partially obstructing sigmoid carcinoma. A CT scan is ordered as part of the staging protocol of his colorectal cancer. A 7.3 cm AAA is uncovered although this is not the cause of the bowel obstruction. After 2 days of conservative treatment, his bowel obstruction resolves.

*Describe your **management** of this patient. Include in your answer, the natural history of this man's aortic aneurysm, and any other tests/investigations you might wish to perform. List the issues you would discuss with the patient and his family regarding any option of treatment you might consider for this man's aortic aneurysm.*

MULTIPLE CHOICE QUESTIONS (1.5 HOURS)

1. Neo-intimal hyperplasia
 - a. Always occurs following bypass surgery
 - b. Occurs at the site of arterial anastomosis only
 - c. Does not occur in the body of a venous bypass graft
 - d. Involves undifferentiated fibroblasts as a progenitor cell
 - e. Is retarded by the use of anti-platelet agents such as aspirin
2. Buerger's Disease
 - a. Is associated with an underlying procoagulant condition
 - b. Occurs predominantly in the over 50 age group
 - c. Is associated with thrombophlebitis migrans
 - d. Is angiographically indistinguishable from atherosclerosis
 - e. Affects the upper limb in 50% of cases
3. Chronic intestinal ischaemia
 - a. Is usually best treated non-operatively
 - b. Can lead to bowel infarction in a minority of cases
 - c. Is identified in less than 5% of aortograms performed for other causes
 - d. Presents with painless weight loss
 - e. Is associated with symptoms only when more than 2 main visceral vessels are occluded
4. Arterial complications of thoracic outlet compression
 - a. Occur in approximately 15% of cases
 - b. Present long after symptoms appear
 - c. Occur more frequently from incomplete than from complete cervical ribs
 - d. Can result from whiplash
 - e. Are not caused by congenital abnormalities of the first thoracic rib
5. Platelets
 - a. Have a life span of 8 to 10 days
 - b. Are bound to the sub endothelial matrix by glycoprotein 1b receptors
 - c. Release ADP from dense granules that lead to tight aggregation of platelets
 - d. Bind to each other by activation of G11b receptors
 - e. Aggregation is inhibited by the action of aspirin which is reversible
6. Venous thromboembolism
 - a. Is associated with a greater than 30% risk of underlying malignancy in unselected patients
 - b. > 80% of lower limb DVTs originate in the calf veins
 - c. D-dimer has a high sensitivity but low specificity for diagnosis of DVT
 - d. Calf vein DVT is not usually associated with late onset venous reflux
 - e. Calf vein DVT is associated with pulmonary embolism in less than 2% of cases
7. Adventitial cystic disease
 - a. Is bilateral in >50% of cases
 - b. Can be treated with angioplasty and stenting
 - c. Is thought to occur due to mucin secreting cells in the adventitia
 - d. Occurs only in the popliteal position
 - e. Usually presents initially with acute ischaemia

8. Which of the following occur if the stellate ganglion is excised?
 - a. Dilatation of the pupil
 - b. Increased ipsilateral facial sweating
 - c. Horner' syndrome
 - d. Sensory loss in the T1 distribution
 - e. Increased heart rate

9. Homocysteinaemia
 - a. Is inherited as an autosomal recessive condition
 - b. High incidence in renal failure populations
 - c. Is associated with a defect in methionine metabolism leading to an accumulation of homocysteine
 - d. Is an independent risk factor for vascular disease
 - e. Can be treated with pyridoxine

10. The following statements are true regarding shunting of carotid arteries during performance of endarterectomy
 - a. Air emboli can occur with shunting
 - b. Shunts will reverse EEG abnormalities
 - c. Routine shunting is associated with reduced perioperative stroke
 - d. Most patients in selective shunt series do not require shunting
 - e. Measurement of carotid back pressure is a widely accepted method to determine the need for a shunt

11. Microbial arteritis with aneurysm formation
 - a. Is best treated with an in situ prosthesis when both the supra and pararenal abdominal aorta are involved
 - b. Is caused by septic emboli from bacterial endocarditis
 - c. Will usually yield positive gram stains for bacteria on operative samples obtained from the aortic wall
 - d. Is never appropriately treated with in situ grafting when the infra renal aorta is involved
 - e. Is usually caused by *candida albicans*

12. Splenic artery aneurysms are
 - a. More common than aneurysms of the hepatic and celiac arteries
 - b. More likely to affect women than men
 - c. Frequently saccular
 - d. Is less risk for rupture if calcified
 - e. Associated with a 40% operative mortality if rupture occurs

13. The primary mechanism by which lymph is propelled is
 - a. External muscle squeezing
 - b. Respiration
 - c. Intrinsic lymphatic contraction
 - d. Fascial constriction
 - e. Arterial pulsation

14. Angiographic features of FMD include the following except
 - a. Irregular stenosis involving the proximal 2 cm of the renal artery
 - b. Beaded appearance
 - c. Web-like stenosis in the peripheral segment of main renal artery
 - d. Aneurysms involving renal artery branches
 - e. Renal artery occlusion

15. Splanchnic (visceral) venous thrombosis has been associated with
 - a. Protein C deficiency
 - b. Protein S deficiency
 - c. Antithrombin III deficiency
 - d. Lupus anticoagulant
 - e. All of the above

16. The cause of anastomotic aneurysm is
 - a. Suture failure
 - b. infection
 - c. inadequate suture purchase
 - d. arterial wall degeneration
 - e. anastomotic stress (traction)

17. Autologous predonated blood should not be transfused without indication because
 - a. High risk of viral transmission
 - b. Danger of bacterial growth and endotoxin production during storage
 - c. Clerical errors
 - d. Acute intravascular haemolysis
 - e. Yersinia enterocolitica

18. Reduced risk of arterial thrombosis and increased venous patency of a microsurgical anastomosis may be achieved by
 - a. vasodilators
 - b. Dextran infusion
 - c. aspirin
 - d. heparinisation
 - e. none of the above

19. Percutaneous transluminal angioplasty is more successful when lesions are
 - a. Short length instead of long
 - b. Ostial instead of distal
 - c. Eccentric instead of concentric
 - d. Single instead of multiple
 - e. Stenosis rather than occlusions

20. The following statement is true regarding urokinase
 - a. Neutralising antibodies are present that block the activation of plasminogen by urokinase
 - b. Urokinase combines with plasminogen to form the activator complex
 - c. Urokinase contains lysine binding sites, which explains its affinity for fibrin
 - d. Urokinase is a direct plasminogen activator with a half-life of 14 minutes
 - e. Urokinase is a naturally occurring plasminogen activator

21. Which of the following features associated with Gray scale spectra is used to determine the degree of stenosis in carotid arterial disease?
- Acceleration time to peak systole
 - Peak spectral broadening in systole
 - Peak systolic frequency
 - Peak spectral broadening in diastole
 - Peak diastolic frequency
22. Which of the following are true concerning idiosyncratic reactions to contrast agents?
- Dose dependant
 - Reduced incidence of minor reactions with low osmolar contrast media
 - An example is pruritus
 - An example is contrast nephropathy
 - A "test dose" of contrast is a safe, reliable test to predict the idiosyncratic response
23. The most important etiologic factor in the development of edema after infrainguinal bypass is
- DVT
 - Reperfusion injury
 - Swelling of smooth muscles
 - Loss of auto regulation of arteriolar smooth muscle
 - Lymphatic interruption
24. Which of the following are true statements regarding vascular steal following A-V fistula construction
- Symptoms may mimic carpal tunnel
 - ABI of less than 0.75 contraindication for thigh A-V Fistula
 - Ligation of artery distal to anastomosis will eradicate steal
 - In the side-to-side anastomosis, reversal of flow in radial artery distal to the anastomosis is required for steal
 - All of the above
25. Which of the following are the most frequently encountered aetiology of thoracoabdominal aortic aneurismal disease
- arteriosclerosis
 - aortitis
 - medial degeneration
 - aortic dissection
 - trauma
26. The puffy hand syndrome
- Relates to acute intra-arterial injection
 - Relates to chronic lymphatic and venous obstruction
 - Relates to deep compartment infection
 - Is best treated with elevation and anticoagulation/thrombolysis
 - Is best treated with fasciotomies

27. Traumatic dissection of the thoracic aorta at the isthmus may produce the acute coarctation syndrome with the following features
- SVC syndrome
 - Hypertension in the arms and a difference in pulse amplitude between upper and lower limbs
 - Dyspnoea, coma and hypotension
 - Interscapular systolic murmur
 - Hoarseness
28. Which of the following is not routinely used in the assessment of vascular injuries of the peripheries?
- Physical examination
 - Angiography
 - duplex
 - angiography
 - Doppler pressure index
29. Lumbar sympathectomy is indicated in
- claudication
 - causalgia
 - frostbite
 - improving amputation levels
 - improving patency of infrainguinal bypass
30. Calf claudication in a young athlete suggests a diagnosis
- Popliteal artery entrapment
 - Popliteal adventitial cystic disease
 - Popliteal FMD
 - Popliteal aneurysm
 - All of the above