

**ANSWERS TO ASSESSMENT SECTION ON PAGE 83**

1. FTTTF

2. FTTFF

The murmur is systolic. Blood pressure depends on cardiac output and systemic vascular resistance (SVR). In aortic stenosis there is often a reduced cardiac output but high compensatory vasoconstriction. Depending on the balance between the two, there may be normotension, hypotension (as is classically described) or even hypertension. Vasodilation can cause potentially fatal downward spiral of blood pressure, so vasodilating drugs (such as hydralazine) are dangerous. A fixed stroke volume means cardiac output cannot be maintained at very slow heart rates. By increasing heart rate and systemic vascular resistance, ketamine may prove useful. Voltage criteria for left ventricular hypertrophy is often seen on the ECG because the heart has been pumping against an increased resistance (or “afterload”).

3. TTTTT

Kussmaul's sign is the rise in JVP (jugular venous pulsation) on inspiration, and is associated with impaired heart filling as occurs in constrictive pericarditis or cardiac tamponade. Normally the neck veins collapse and JVP falls on inspiration.

4. TTFTT

Fluid in the pericardium should be drained before anaesthesia as severe hypotension can occur at induction. A fast heart-rate and adequate preload maximize cardiac output in cardiac tamponade.

5. TTTTF

Constrictive pericarditis can be caused by a number of conditions including TB. The clinical features are essentially those of right sided heart failure, including elevated JVP, massive liver enlargement and ascites. Dependent oedema is also usually a feature of right sided heart failure but is often absent, minimal or much less pronounced than the hepatomegaly and ascites in this particular condition.

6. FTTFT

Rheumatic fever causes a pan-carditis and can cause pericarditis which may be heard as a rub or seen on the ECG as concave elevated ST segments

7. TTTFF

Blood urea level reflects three things: i) production (it is produced by the liver as proteins are broken down). Thus levels are low in liver failure and high after a gastro-intestinal bleed (effectively a large protein load). ii) clearance from the body, which is done by the kidneys. iii) body water levels - so simplistically the urea will be raised in dehydration and diluted or lowered in over-hydration.

8. TTTFT

Post-primary TB may cause cavitation but the primary complex does not.

9. FFTTF

The Apgar score includes assessment of 5 parameters with a maximum score of 10

10. FFFTT

Minimum GCS score is 3. Noting pupil size is crucial in the assessment of head injury, but is not part of the GCS score. A reduced GCS in association with a skull fracture means that there is a significant possibility (about 1 in 4) of an intracranial haematoma.

11. TFFTT

When dealing with a head injured patient, you need to consider the whole patient. If they are at risk of bleeding to death from another injury, then this should be treated first. “Secondary insults” such as hypovolaemia, hypotension and hypoxaemia should be corrected aggressively.

12. TTTTT

With fractured base of skull the fracture may be difficult or impossible to see on X-ray but can be diagnosed clinically in the presence of bruising over the mastoid (Battle's sign), blood behind the tympanic membrane (or at the external auditory meatus) or periorbital bruising (Raccoon/Panda eyes). The fracture of bone alerts us to the possibility of damage to the underlying brain which needs to be assessed clinically by GCS measurement and neurological examination.

13. FTTFT

Intracranial pressure (ICP) can be reduced with a dose of 100ml of 20% mannitol but 1000ml in one dose is too much. Frusemide augments the effects of mannitol in

reducing intracranial pressure. Head injured patients nearly always require intravenous fluids (especially after mannitol which will dehydrate them), but dextrose will worsen cerebral swelling and should not be used. ICP can also be reduced by placing the patient slightly head up (about 20-30 degrees) and avoiding compression or obstruction of the neck veins which will worsen intracranial congestion. (Having said that it is important to secure the endotracheal tube well - try taping it in)

14. TFFFF

Noting pupil size is crucial in the assessment of head injury so do not dilate the pupils with atropine.

15. FFFFT

Autoclaving does not work if the instruments have not been given a thorough "social" cleaning beforehand. Foreign matter must be removed from the instruments before autoclaving.

16. TTTTT

17. TTTTT

18. FTFTT

Ventilation of the patient is more important than preventing aspiration - so if cricoid pressure is preventing ventilation, remove it! Decide early that intubation has failed and concentrate on ventilating the patient until they recover spontaneous ventilation.

19. TTTFT

20. FTFTT

High or low potassium will cause cardiac arrhythmias and disturbances in balance can occur after a variety of drugs and conditions.

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