**Question 11; 22.1 Monash trial exam**

Dr Michael Coman marked 20 papers, Dr Wendy Lim marked 20 papers.

Both examiners marked the first 10 papers (no more than one mark variation). Calibration and discussion 🡪 followed by independent examiner marking.

**Marks available:** 12

**Range of marks:** 4-11

**Pass mark:** 8 (68% pass rate)

**Question 11. A 78 yo man presents with tearing chest pain suggestive of aortic dissection (12 marks)**

1. Complete the following table regarding the utility of the following investigations in the diagnosis and management of aortic dissection. (8 marks)

|  |  |  |
| --- | --- | --- |
|  | Advantage | Disadvantage |
| CT aortogram | 1. Localises site of dissection2. Identifies complications (branch artery involvement/occlusion/rupture)3.Determines extent4. May identify alternate pathology – \*give example5. High sensitivity and specificity6. end organ involvementDoesn’t ‘Rule out other causes’ (for example AMI) | 1. can’t assess aortic incompetence2. patient requires transport away from resuscitation area3. Delay in diagnosis4. Anaphylaxis from contrast |
| Transthoracic Echocardiogram | 1. Sensitive for ascending aorta involvement2. Excellent to assess valve involvement and tamponade3. Bedside investigation4. Dynamic – serial exam possible5. rapid information | 1. unable to visualise descending aorta2. operator variability/availability3. patient factors (obesity)4. Lower sensitivity/specificity |

Notes:

* Radiation risk – not accepted. This man is 78, he has a potentially lethal condition, the CT is not elective. He is unlikely to come to harm from long term radiation exposure. You must tailor your answers to the specifics of the question, don’t offer up rote learned generic answers.
* Double dipping or ‘mirror image’ answers for pros and cons. You will only get ONE-mark eg Con for CT is ‘unstable patient’ – one mark, Pro for U/S is ‘unstable patient’ – no mark. There is a fair list of pros and cons for each investigation, you only need to supply two. Diversify your answers, remember this is a fellowship exam.
* Contrast nephropathy/contrast risk/contrast load – not accepted. This man needs an urgent diagnosis to potentially safe his life, the benefits outweigh the risk of renal injury – without a diagnosis and management, death is likely. The CTA is the investigation of choice, other options ie MRI and TOE have less utility in this case.
* ‘anaphylaxis to contrast’ was accepted (after examiner discussion!) – a specific life-threatening complication.

1. List two principles of blood pressure management when treating aortic dissection (2 marks)
* prevent reflex tachycardia (to decrease shear forces on flap) ie vasodilators must follow rate control
* time critical intervention
* precision required – drug infusions/arterial line
* set HR and BP goals early: SBP 120-130mmHg, [Rosen does go down to 100 mmHg, I reckon this is a bit low, but reluctantly given a mark if you went as low as 100], HR <60
* titrated IV narcotic analgesia may improve BP parameters and should be instituted early
* maintain perfusion to vital organs (ie clinical endpoints as well as numerical)

Notes:

* Management of HR and BP is related to SAME principle, i.e. decreasing shear force on the aortic wall. Separating the answer will not earn extra marks.

c. State two (2) key issues in the management of a patient with proven Type A aortic dissection **in addition to blood pressure management**. (2 marks)

* Early cardiothoracic surgical referral (untreated, death rate is 1%/hr)
* Search for specific cardiovascular complications from pericardial/aortic valve/coronary artery/carotid involvement
* **Early** transfer, communications for **definitive care** (need to mention that this is time critical to minimise mortality)
* Establish Rx aims/ limitations
* Analgesia e.g. titrated IV morphine will help with BP control

Notes:

* Some candidates gave answers relating to BP management – need to read the question.
* Question asks for 2 issues, so again, expanding on 1 issue will not gain extra marks

