Syllabus	VS_IK_05
Topic	Aortic dissection

You have been pre-alerted to the Emergency Department where Iwan, a 58 year old gentleman has presented with a suspected aortic dissection.

a)
List 3 clinical features gathered from the history or examination that may suggest an aortic dissection (3 marks)

1. .....
2. .....
3. .....

b)
List 5 risk factors for aortic dissection (5 marks)

1. .....
2. .....
3. .....
4. .....
5. .....

c)
List 3 investigations would you request? (3 marks)

1. .....
2. .....
3. .....

A subsequent CT scan has shown that Iwan has an ascending aortic aneurysm.

d)
What 2 anatomical classifications exist for aortic dissection? (2 marks)

1. .....
2. .....

e)
Dissection in what area of the aorta requires urgent surgical intervention (1 mark)

.....

f)
When you review Iwan you notice his blood pressure is 190/95mmHg. Name 2 drugs you could use to manage this situation (2 marks)

1. .....
2. .....

g)
List 2 reasons why might Iwan develop coagulopathy following surgical repair of his dissection? (2 marks)

1. .....
2. .....

h)
Other than coagulopathy, list 2 other potential complications that may arise postoperatively (2 marks)

1. .....
2. .....

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Topic	Aortic dissection

Q	Answer	Mark	Guidance

a)	• Abrupt, sharp, high intensity chest pain
	  ○ "Stabbing, tearing, ripping"
	• Severe chest pain – more commonly Type A
	• Back and/or abdo pain – more commonly Type B
	• On examination
	  ○ Tachycardia + hypertension
	  ▪ Catecholamines, anxiety + pain
	  ○ Tachycardia + hypotension
	  ▪ Aortic rupture, pericardial tamponade, acute AV regurgitation or coronary ischaemia with involvement of coronary ostia
	  ○ Differential or absent pulses in extremities
	  ○ Diastolic murmur
	  ○ Syncope
	  ○ Stroke or other neuro complications from malperfusion – NEURO exam
		3	Two-step process:
			• First – interruption of intima
			  ○ Severe pain and loss of pulse volume
			• Second – pressure exceeds a critical limit and rupture occurs

b)	• Long standing arterial hypertension
	  ○ Advanced age
	  ○ Smoking
	  ○ Dyslipidaemia
	  ○ Cocaine/crack
	• Connective tissue disorders
	  ○ Hereditary fibrillinopathies
	  ▪ Marfan's syndrome
	  ▪ Ehlers-Danlos syndrome
	  ▪ Turner's syndrome
	  ○ Hereditary vascular diseases
	  ▪ Bicuspid aortic valve
	  ▪ Coarctation
	• Vascular inflammation
	  ○ Giant cell arteritis
	  ○ Takayasu arteritis
	  ○ Syphilis
	• Aortic aneurysm
		Any 5	

	• Pregnancy
	• Deceleration trauma
	  ○ Accident
	  ○ Fall from height
	• Iatrogenic factors
	  ○ Catheter/Instrument intervention
	  ○ Aortic surgery
	  ▪ Cross-clamp or side clamp
	  ▪ Graft anastomosis
	  ○ Cannulation site		

c)	• Bloods: Cross match, CK, Troponin, FBC, U & Es, Myoglobin, D-dimer, LDH • 12 lead ECG • CXR • Transthoracic Echo (TTE) • Transoesophageal Echo (TOE) • CT with contrast	Any 3	Must specify what blood tests
d)	• Stanford • DeBakey	2	
e)	• Ascending aorta	1	
f)	• B-blocker: esmolol, metoprolol, labetolol • Vasodilators: sodium nitroprusside, GTN, hydralazine • Opioids: morphine, fentanyl, alfentanil	Any 2	Must state drug name not class
g)	• Major haemorrhage • Massive transfusion • Hypothermia • Prolonged cardiopulmonary bypass • Circulatory arrest	Any 2	
h)	• Metabolic acidosis • Visceral ischaemia • Infection – wound, chest • Respiratory complications – failure, infection • Aortic rupture • Cardiac tamponade • Stroke • Circulatory failure	Any 2	

References:

1) Hebballi R, Swanevelder J. Diagnosis and management of aortic dissection. CEACCP (2009) 9(1)14-18 https://bjaed.org/article/S1743-1816(17)30327-X/pdf