

1. Lead examiner

Candidate Number:

2. Co-examiner

Final Mark:

SCENARIO

An 82 yr old woman presents with 10 hours of abdominal pain, fever and diarrhoea. Her past history includes ischaemic heart disease, chronic atrial fibrillation, Type 2 diabetes mellitus and chronic renal impairment. Her vital signs are: *Temperature of 39.1 °C; HR of 110/min and irregular; BP of 90/ 66 mmHg.* A plain abdominal XR is taken. She is in a monitored cubicle of your Emergency Department.

Question 1: Describe and interpret the x-rays *(included in stem)*

Expected Response	Details & Comments	1.5
Positive findings	Erect and supine plain AXR – *small bowel dilatation and multiple air:fluid levels suggestive of obstruction or ileus. Well defined R lower quadrant opacity – extra-peritoneal, probably subcutaneous Scoliotic, spine. Osteopaenia.	
Relevant negatives	No gas in rectum; free gas not excluded Diaphragms not fully viewed	
Conclusion(s)	Patient showing signs of shock. Given her age and preliminary findings, the prognosis is guarded, irrespective of actual Dx.	
Differentials (asterisks and 1 other)	*Small bowel obstruction: adhesions, herniae Ileus: sepsis, GI ischaemia Inflammatory intra abdominal pathology- diverticulitis, pancreatitis, appendicitis, inflammatory bowel disease Vascular pathology- mesenteric ischaemia* Infective gastroenteritis Other: Digoxin toxicity	

Question 2: Your clinical assessment leads to suspected mesenteric ischaemia. Discuss the options for further imaging in this patient.

Expected Response	Details & Comments	2 m
Pros and cons Consider: Diagnostic yield, risks, contra-indications, logistics.	*CT with contrast/ CT angiography- given the clinical condition of the patient. Most sensitive for patient's with mesenteric venous thrombosis. However, risk of contrast nephropathy. Sensitivity and specificity can be as low as 64% and 92%. Findings – absence of contrast enhancement, pneumobilia, pneumatosis intestinalis, arterial and venous occlusion- thrombotic / embolic. Caution -Cr clearance and contrast allergies MRI/MRA- MRI- good resolution of bowel wall oedema, limited resolution of bowel gas, MRA- detailed information of the vasculature. Dependent on availability and turn-around time. Angiography- specific and gold standard, diagnostic and therapeutic. Limited availability, and risk with radiocontrast. This patient is a high-risk candidate for complications. Identify the type of occlusion, site of occlusion and state of collateral circulation. Emboli – filling defect, Thrombus- acute cut off of contrast. US –Limited value in acute setting. Useful in chronic state, assessing vascular flow- 87% and 98% sensitivity in identifying celiac and SMA stenosis respectively	
*No imaging (prompt)	If deemed only for palliative Mx, OR If immediate exploratory laparotomy/ laparoscopy indicated	

Question 3: Describe and interpret the patient's CT scan of abdomen.

Expected Response	Details & Comments	2 m
Findings Only basic info required	CT with *contrast. Identify main structures: *Dilated, oedematous loops of small bowel- thick walled and non-contrast enhancing. Note also loops which are clearly contrast enhancing. No free gas, minimal mesenteric contrast, aorta normal diameter	
Interpretation	Acute ischaemic bowel, probably from cardiac embolus. Aetiologies: - Acute mesenteric arterial embolism or thrombosis - Mesenteric venous thrombosis - Non occlusive mesenteric ischaemia Laparotomy is potentially life-saving. Regardless, prognosis is poor	

Question 4: Outline the factors affecting the decision regarding operative treatment for this patient.

Expected Response	Details & Comments	1.5
Critical decision: 100% mortality without surgery; time critical if opt for it		
*Patient's wishes	Advance directives Patient potentially unfit to decide, even if <i>compos mentis</i> pre-morbidly	
Next of Kin	Medical power of attorney if applicable Choice must be informed and not coerced	
Co-morbidities	Premorbid QOL Complications of current illness – eg acidaemia, shock Other illness – heightening risks of perioperative morbidity / mortality Other risks: eg current warfarin or antiplatelet therapy	
Clinical progress	Response to initial resuscitation	
Current resources	Availability of urgent surgical services and ICU, and their *opinion If unavailable, pt unlikely to be suitable for transfer	
If time available	Describe pre-operative workup and treatment	

Comments: (if you fail the candidate, please state why)

If the candidate fails the exam overall, what feedback would you suggest CIC provide for this SCE?

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