Acute mesenteric ischaemia

Includes acute mesenteric arterial embolus and thrombus, mesenteric venous thrombus, and non-occlusive mesenteric ischemia (NOMI). They all have features of impaired blood transfusion to the intestine, bacterial translocation, and systemic inflammatory response.

Epidemiology

- Usually age>50
- Younger patients often have RF for mesenteric venous thrombosis (MVT) e.g. AF

Risk factors

- Emboli - mural thrombus post–AMI, auricular thrombus assoc with mitral stenosis and AF, septic emboli from valvular endocarditis, fragments of proximal aortic thrombus, arterial catheterisation dislodging bits of plaque.
- Thrombosis – atherosclerosis, aortic aneurysm or dissection, arteritis.
- NOMI - hypotension, vasopressive drugs, ergotamines, cocaine, digitalis.
- MVT – hyperviscosity syndromes, hypercoagulability disorders (e.g. protein C and S deficiency), tumour causing venous compression or hypercoagulability, intra-abdominal infection, portal hypertension, trauma, pancreatitis, decompression sickness.

Presentation

Acute mod to sev colicky/constant, poorly localised pain with degree of pain out of keeping with physical findings. Peritonism is a late and poor prognostic sign. ↑RR with acidosis. AF.

Investigations

Bloods: FBC (WCC may be ↑), UEC, ABG+lactate, CK
ECG: AF, prev AMI.
Imaging: CXR, AXR (ileus, ectopic gas), CT may show pneumatosis intestinalis or portal vein gas, bowel wall ± mesenteric oedema, thumbprinting, streaking of mesentery, and solid organ infarction. CT angiography for arterial blockage. Echocardiography if cardiac source suspected.

Management

Resuscitation with IVF, O2.
Supportive care: Analgesia, NBM/NGT, antibiotics, ICU/HDU if not palliative.
Specific:

- Intra-arterial vasodilators (papaverine) or thrombolytics
- Heparin for mesenteric venous thrombosis.
- Early laparotomy & resection of ischaemic/dead bowel.
- Vascular surgical options: Angioplasty to the superior mesenteric artery, embolectomy, aortomesenteric bypass.

Prognosis

- Mortality>50%
- Higher if peritonism

Ischaemic colitis

Compromise of colon blood supply due to watershed near the splenic flexure between SMA & IMA territories, venous occlusion or proximal to an obstruction.

Risk factors

- Thromboembolic disease
- Hypovolaemia: ↓cardiac output or arrhythmias, shock.
- Trauma
- Sx: Cardiac, vascular, colectomy, O&G
- Strangulated hernia or volvulus
- Drugs: digoxin, oestrogens, cocaine, amphetamines, antihypertensives
- Vasculitis & sickle cell disease
- Thrombotic disorders
- Long distance running
- Idiopathic

Presentation

Acute onset abdominal pain & tenderness most frequently in LIF. N & V. Bloody diarrhoea.

Investigations

Blood: FBC, UEC, ABG, coags
ECG:
Imaging: CXR, AXR may be normal or show intramural gas. CT ± angiography. Colonoscopy. Barium enema ('thumb printing')

Differential diagnosis

- Dysentery
- Acute diverticular disease of the colon
- Acute inflammatory bowel disease
- Perforation of a hollow viscus or pancreatitis causing left-sided peritonitis

Management

- Supportive: correct hypovolaemia and hypoperfusion. NBM±NGT, analgesia.
- Antibiotics may be given but of unproven benefit.
- Surgery if rare fulminant ischaemic colitis with perforation or gangrene develops
- Chronic segmental colitis or chronic stricture may require segmental colectomy.

Chronic mesenteric ischaemia (intestinal angina)

Chronic atherosclerotic disease of intestinal vessels. Usually all 3 major mesenteric arteries..

Epidemiology

- Rare. Mean age 60
- Risk factors as for atherosclerosis - e.g. smoking, HT, DM and hyperlipidaemia.

Assessment

Hx: Chronic mod-sev colicky/constant, poorly localised pain. Wt loss, fear of eating, 'intestinal angina' (post-prandial pain). N&V, occ blood PR or bowel irregularity. PMHx of CVS disease
Exam: Vague abdominal tenderness disproportionate to pain, abdominal bruit, signs of CVS dz.
Investigations: As for acute mesenteric ischaemia.

Management

Surgery: Options incl transaortic endarterectomy of coeliac artery or SMA, retrograde bypass from the external iliac artery, and anterograde bypass. Intra-arterial **papaverine** may ↓spasm.
Medical: If unfit for surgery, analgesia, nitrates & anticoagulated.