Surgical Emergencies

Hot Tips

Prompt resuscitation and provision of analgesia are integral components of the management of strategy of serious abdominal conditions.

N.B. This brief guidance should be read in conjunction with the Trust's Surgical Guidelines

Analgesia
Do not be afraid to give adequate analgesia in patients with abdominal pain. Far from "masking the signs" this will make the patient far more easy to examine. An excellent example is renal colic as the patient cannot keep still until the pain settles. If the patient is stable, see them quickly, give adequate analgesia and then reassess when settled.

Severe Abdominal Pain
When pain is out of proportion to the physical findings, consider: Mesenteric infarction, acute pancreatitis and ruptured AAA. A common misdiagnosis is the assumption that the elderly patient is suffering from renal colic rather than a ruptured AAA. Elderly patients are much more likely to have a serious cause than the young, but they are less likely to show signs.
Steroids and obesity may render physical signs less obvious.

Sepsis
Absence of fever or raised WCC does not exclude infection/peritonitis, especially in the very old, the very ill, and the immunosuppressed.

Rectal Examination
This should be conducted in the presence of a chaperone. In adults, do a rectal examination in cases of bleeding, constipation or diarrhoea.

Investigations
The assessment of patients with abdominal pain in the ED is usually more dependent upon history and examination than upon sophisticated tests. Abdominal X-ray, full blood counts and CRP rarely help with a decision to send for a surgical opinion. You may be asked to do this by SAU but ask us if you feel this is unnecessary.

The following investigations may prove useful at times:

BM DKA may present with abdo pain

Urinanalysis to detect UTI or Renal calculi

CXR to detect the presence of free gas or lung pathology (remember RLL pneumonia may present as abdo pain)

AXR indications include: the detection of calculi, intestinal obstruction and GI perforation

Blood Tests frequently requested but rarely change management. Consider the need for cross match in the shocked individual.

Blood Gas beware the patient with a significant metabolic acidosis. This may be the only sign of an ischaemic bowel

USS reveals AAA, free peritoneal fluid and calculi

Amylase gross elevation (>5 X upper limit of normal) suggests pancreatitis, but it may be normal in up to 10% of those with the disease. Conversely, moderate rises in amylase concentration occur in acute cholecystitis, perforated peptic ulcer and mesenteric infarction.

Pregnancy testing Carry out a pregnancy test on **ALL** women who are possibly fertile if they have any abdominal pain.

Acute Upper Abdominal Pain

Diagnoses to consider:

Biliary Colic	Hiatus hernia	Acute MI
Cholecystitis	Perforation of lower oesophagus	PE
Pancreatitis	Ruptured AAA	Pleurisy
Peptic ulcer		Pericarditis

Biliary Colic

This may present with episodes of RUQ/epigastric pain +/- radiation to the back. Vomiting may also occur.

Treatment: Analgesia (rectal NSAIDs are frequently effective).

If the pain has subsided and there are no residual abn physical signs, discharge the patient to the GP for follow-up. At times admission is necessary for pain control, or if there are features of sepsis – suggesting acute cholecystitis.

Complications: Pancreatitis, acute cholecystitis, obstructive jaundice or ascending infection.

Pancreatitis

This is a relatively common serious cause of abdo pain. Typically presents as severe constant epigastric pain radiating to the back +/- N+V. Patients may be mildly pyrexial, have epigastric tenderness and may even be shocked.

Treatment:

- Oxygen
- IV access and IV fluids – correct hypovolaemia (3rd space fluid sequestration may be considerable), may require CVP line
- NBM (+NG tube)
- IV analgesia, antiemetic

Peptic Ulcer

Perforation of a peptic or duodenal ulcer is usually a sudden event. Sudden localised epigastric pain spreads to the remainder of the abdomen – often worse on coughing or moving and may radiate to the shoulder tip. Patients often prefer to lie still. Absent bowel sounds, shock, generalised peritonitis and fever develop as time passes.

Erect CXR – will demonstrate free gas in 75% of cases. (If in doubt as to the location of gas e.g. free gas 'vs' stomach bubble – request Abdo decubitus X-ray).

Treatment:

- O2,
- IV fluids (resuscitate),
- IV analgesia,
- Refer to surgeons

Other causes of GI perforations: Diverticular disease, trauma, colonic Ca.

Intestinal Obstruction

Generally presents as central colicky abdo pain, abdo distension, vomiting and absolute constipation (no BO and no flatus passed). The exact presentation depends on the site of the obstruction and the underlying cause. Abdo X-ray may demonstrate distended loops of bowel.

Diagnoses to consider:

Adhesions	Volvulus	Gallstone ileus
Obstructed hernia	Inflammatory mass	Intussusception
Tumors	Peptic ulcer disease	

Treatment:

- O2,
- IV fluids (resuscitate),
- NBM (+NG tube),
- IV analgesia and antiemetic.
- UC and monitor fluid output.
- DVT prophylaxis.

Intestinal Pseudo-obstruction – results from impaired GI motility. Drugs with anticholinergic actions are a common cause (e.g. TCAs). Treatment is by decompression.

Abdominal Aortic Aneurysm - rupture

Abdominal aorta accounts for 90% of all aneurysms. Any abdominal aorta >3cm diameter is aneurismal. The probability of rupture increases with increased size (commoner is >5.5cm).
Symptoms – the classic triad of symptoms is not always present and a low threshold for the diagnosis of possible cases should be adopted:

- Pain in abdomen and back
- Hypovolaemic shock/sudden collapse
- Pulsatile abdominal mass

Treatment:

- O2,
- IV access,
- X-match blood (12units),
- Analgesia
- Maintain systolic BP 70-100mmHg

Investigation: US scan (can't confirm rupture)
+/- CT scan

Refer urgently to the surgical registrar.

Acute limb ischaemia

Occurs due to sudden interruption of the limb blood supply by embolus (most common and usually cardiac in origin), or thrombus (occurs on background of peripheral vascular disease).

Symptoms + Signs: The **6 P's** found in the affected limb:

- Pallor,
- Painful,
- Pulseless,
- Perishingly cold,
- Paraesthesia and
- Paralysis.

Treatment:

- O2,
- IV analgesia and fluids,
- IV Heparin – unless for surgery within 4 hours.

Renal Colic

Calculi or blood clots may cause renal colic. The patient experiences severe pain (constant dull ache in loin associated with excruciating colicky pain spreading to iliac fossa/genitalia. Examination reveals few findings – loin tenderness. Remember to check for AAA! Microscopic haematuria is almost invariable. Pyrexia and rigors suggest associated infection. Symptoms are usually relieved when the stone passes into the bladder.

Investigations:

- KUB x-ray – 90% of renal calculi are radio-opaque,
- Urinanalysis (blood),
- U+E, FBC,
- CT KUB

Treatment:

- Analgesia (rectal NSAIDs are very effective but IV opiates may be necessary). Antibiotics if evidence of co-existing UTI.
- Admission is frequently required for pain management.

If the symptoms settle and the patient is able to go home, refer for CT-KUB and urology follow-up.

Urinary Retention

Inability to pass urine with a significant volume of urine in the bladder – usually >500mls is a relatively common (especially in males with prostatic enlargement) and distressing condition.

Examination reveals an enlarged tender bladder, with dullness to percussion well above the symphysis pubis. If present consider the possibility of co-existent cord compression (fortunately not present in the majority).

Treatment: Catheterize immediately to relieve distress.

Investigations: U+E, FBC

Refer to Urology – To arrange trial without catheter (TWOC)

Acute Testicular Pain

Testicular torsion is a surgical emergency requiring prompt diagnosis and treatment if the testicle is to be salvaged. It most common in adolescence but may occur at any age. Typically it presents with acute onset of testicular pain which may be associated with abdominal pain and vomiting. The testis is commonly swollen, extremely tender and high riding.
Any suspicion of testicular torsion should be referred promptly for further evaluation +/- surgical exploration.

Differential Diagnosis:

- Epididymo-orchitis
- Orchitis
- Strangualted ingino-scrotal hernia
- Torsion of appendix of testis

Chronic testicular pain is not an emergency

Anorectal Problems

Pilonidal Abscess – due to infected pit in the natal cleft. Patient complains of pain and swelling or offensive discharge.
Treatment: Refer to surgical team

Anorectal Abscess – most begin as an infection involving the anal crypt and its gland. Infection spreads between the sphincter muscles to a variety of sites. Typically this results in pain and swelling (abscess) in the peri-anal region. Symptoms may be less evident with deep infections. PR examination may reveal a mass or indurated area.
Treatment: Refer to surgical team

Anal Fissure – tear in the squamous epithelium of the anal canal producing severe pain on defaecation and for 1-2h afterwards. Blood may be seen on the toilet paper. Most fissures are located posteriorly in the midline, just inside the anal orifice. (Be suspicious if fissures are not in the midline and are multiple – differential diagnosis: Crohn's, Anal or rectal Ca.)
Treatment: Analgesia, Stool Softener and refer to GP.

Haemorrhoids – Painless bright red bleeding is the commonest complication. It usually occurs on defaecation and blood is not mixed with the stool.
Check the abdomen and anus (including PR examination).
Treatment: Refer to GP for consideration of surgical OPA.

N.B. Beware PR bleeding in the elderly, particularly if blood is present on rectal examination. Surgical referral is indicated for further evaluation.