Left Iliac Fossa Pain

The separate general articles Abdominal Pain, Abdominal Examination and Pelvic Pain have some overlap with this article.

Left iliac fossa (LIF) pain may occur due to a self-limiting condition but may also be a sign of a medical/surgical emergency. It is less common than right iliac fossa (RIF) pain. The two share a considerable number of differential diagnoses but some conditions are more likely, or only likely, on one side. LIF pain is common and tends to affect an older population more than RIF pain.

Parietal pain occurs when there is noxious stimulation of the parietal peritoneum because of ischaemia, inflammation or stretching. It is sharp, intense, discrete, localised and aggravated by coughing/movement. Visceral pain occurs when noxious stimuli affect a viscus. Hindgut structures (eg, large intestine) cause lower abdominal pain. Referred pain is pain felt in remote areas supplied by the same dermatome as the diseased organ.[1]

History

- Enquire about the pain:
  - Ask the patient to point to where it is. Note whether the patient uses a single finger or it is more diffuse.
  - Ask when it started. Acute abdominal pain is generally pain that has been present for <1 week.[2]
  - Establish whether the onset was sudden or gradual.
  - Ask whether it is continuous or intermittent.
  - Ask the patient to describe the nature of the pain - stabbing, burning, gripping, etc.
  - Note whether there are aggravating or relieving factors - eg, food, position, medication. Parietal pain is aggravated by movement. Relief of pain after a bowel movement suggests a colonic cause. Relief after vomiting suggests a cause in the more proximal bowel.
  - Note whether there is radiation - eg, back/groin (renal colic), shoulder (diaphragmatic irritation secondary to visceral perforation).

- Make a systematic enquiry:
  - Appetite - ask if there is any nausea or vomiting.
  - Ask whether there are any fever symptoms.
  - Weight - discuss whether this is stable. Ask whether there has been any weight loss (probably more relevant in chronic LIF pain when considering colorectal carcinoma).
  - Bowels - ask when they were last open. Ask about ability to pass stool/flatus. Discuss whether there is any blood, mucus, or melaena, and the consistency of stool.
  - Determine the timing of last menstrual period; enquire about menstrual history, irregular vaginal bleeding and form of contraception.
  - Ask whether there is vaginal discharge.
  - Urine - establish whether there is any urinary symptoms present.

- Note smoking and drinking history.
- Note past medical history.
- Medication.

Examination

- Note the general condition of the patient - eg, well, shocked, pyrexial.
- Note temperature, pulse rate and quality, blood pressure.
- With the patient adequately undressed and comfortable, systematically examine the abdomen - inspection, percussion (abdomen may be tympanic in bowel obstruction), palpation, auscultation (absent bowel sounds indicate obstruction/volvulus). Establish whether it is an acute abdomen - note whether there is distension, guarding, rigidity or rebound tenderness. Note whether there is a palpable mass and, if so, whether it is pulsatile.
- Examine testes and hernial orifices.
- A definitive diagnosis may well require a rectal and/or vaginal examination. Usually a GP will do this only if it affects the decision of whether or not to refer the patient acutely. If it will be performed by the admitting team, it may be omitted.

Investigations

These should be tailored to the patient's symptoms and the examination findings. In the GP setting there are a number of bedside tests that can be done to aid diagnosis:

- Dip urine for pus cells, leukocytes and/or nitrites if urinary tract infection (UTI) is suspected. Microscopic haematuria is usually present in ureteric colic. It can also occur in abdominal aortic aneurysm.
- Perform a pregnancy test if ectopic pregnancy or miscarriage is suspected.

If the pain is non-acute and can be managed in the GP setting, further investigations may be requested:
Blood tests may include FBC, renal function, LFTs.
- Vaginal swab tests can help to exclude pelvic infection.
- Ultrasound scanning can show ovarian or other mass.
- Referral for further bowel investigations may be necessary - eg, referral under the two-week wait rule if bowel carcinoma is suspected.
- Further urological investigations may be needed - eg, cystourethroscopy.

**Imaging**

If the patient has an acute abdomen and is referred immediately to hospital, further diagnostic tests may be carried out. CT scanning is taking over from ultrasound scanning except in cases of suspected cholecystitis. Plain abdominal X-ray is mainly used to exclude bowel obstruction, ileus and perforation, where it may show dilated loops of bowel. Erect CXR may show intraperitoneal air under the diaphragm.

**Differential diagnosis**

LIF pain may be acute or chronic/subacute.

**Causes of acute LIF pain**

**Gastrointestinal causes**[^4]

- **Gastroenteritis**: however, this commonly causes more generalised abdominal pain. It is the most common cause of abdominal pain in children with viral causes being most frequent. Care should be taken as gastroenteritis specifically causing LIF pain should be a diagnosis of exclusion.
- **Constipation**: acute constipation usually has an organic cause (eg, gastroenteritis).[^1] Again, it should be a diagnosis of exclusion.
- **Diverticulitis**: over 90% of diverticular disease involves the sigmoid colon and therefore diverticulitis most commonly presents with LIF pain.
- **Volvulus**: sigmoid volvulus is the most common type of colonic volvulus.[^5] It can lead to large bowel obstruction and can have an insidious onset in elderly patients.
- **Left inguinal/femoral hernia**: an incarcerated left inguinal or femoral hernia may present as LIF pain. There will be tenderness and an irreducible swelling over the hernial orifice, and symptoms and signs of bowel obstruction. Cough impulse is lost if hernia is incarcerated. Requires urgent surgical referral.
- **Appendicitis**: rarely, this can present as LIF pain, particularly in patients with redundant and loosely attached caecum.[^6]
Gynaecological causes

- **Ectopic pregnancy** in the left Fallopian tube: pain rather than vaginal bleeding is the prominent feature. If in doubt, admit. When rupture occurs bleeding is profuse and two or three litres can be lost in a short space of time with consequent hypovolaemic shock.
- Threatened or complete **miscarriage**: if a pregnancy test is positive and there is a history of bleeding, always refer for an ultrasound scan to exclude an abortion. If there is associated pain, an ectopic pregnancy needs excluding by immediate referral to secondary care.
- **Causes of LIF pain in later pregnancy**: premature labour, placental abruption, uterine rupture.
- **Pelvic inflammatory disease (PID)/salpingitis/pelvic abscess**: typically, vaginal discharge is present. More common if there have been multiple sexual partners, a history of PID and if an intrauterine device is in situ.
- **Mittelschmerz** (ovulation pain): this is a sudden onset of mid-cycle pain.
- **Ovarian torsion**: this usually happens when an ovary is enlarged by a cyst. Diagnosis can be difficult. There may be adnexal tenderness. Ultrasound scan may show the abnormal ovary.
- Fibroid degeneration.
- Pelvic tumour.

Urological causes

- **Testicular torsion** or **epididymo-orchitis**: may produce pain that is referred to the lower abdomen on that side. The testis will be very tender.
- **Ureteric colic**: this can cause pain that may be intermittent and 'shooting'. A stone may cause microscopic haematuria. 70% are visible on plain X-ray. Ultrasound scanning is a good diagnostic technique.
- **UTI**: urinary frequency, dysuria, haematuria, urgency and smelly urine may raise this as a differential diagnosis.

Other causes

- **Abdominal aortic aneurysm**: this can present with atypical symptoms resembling renal colic or diverticular disease rather than the classic back or flank pain. Do not forget this differential diagnosis. Look for a pulsatile abdominal mass. Approximately 30% of patients with a ruptured abdominal aortic aneurysm are misdiagnosed initially.
- **Situs inversus**: here, the differential diagnosis for LIF pain is that for RIF pain. Only half of those with dextrocardia have total situs inversus.
- **Herpes zoster**: usually a characteristic rash. Before the rash appears the skin can be tender.
- **Pelvic vein thrombosis**.

Causes of chronic LIF pain

Gastrointestinal causes

- **Constipation**: chronic constipation usually has a functional cause (eg, low-residue diet). Pain related to it is most often left-sided or suprapubic.
- **Irritable bowel syndrome**: should be a diagnosis of exclusion. The bowel may be loaded and tender.
- **Carcinoma of rectum or descending colon**: there is usually an associated change in bowel habit, weight loss and rectal bleeding. It may present with obstruction and perforation.
- **Crohn's disease** and **ulcerative colitis**: inflammatory bowel disease can affect the distal colon. There will probably be diarrhoea with blood and mucus.

Gynaecological causes

- Pelvic/ovarian tumour.
- **Endometriosis**.

Other causes

- Left hip pathology.

Management

- Management depends on diagnosis and is of the underlying disorder.
- An acute abdomen and/or a haemodynamically unstable patient requires immediate referral to hospital for further assessment. If abdominal aortic aneurysm or ectopic pregnancy are suspected, refer to secondary care immediately. Keep the patient nil by mouth.
- Airway, Breathing and Circulation (ABC) should be assessed and managed appropriately.
- Traditional teaching was that analgesia should not be given to patients with an acute abdomen before they see a surgeon, as it can suppress physical signs. This has been subject to much debate and modern opinion is that it is unkind and unnecessary to withhold pain relief. The receiving doctor should be told that analgesics has been given. A Cochrane systematic review published in 2007 provided some evidence to support the notion that the use of opioid analgesics in patients with abdominal pain is helpful in terms of patient comfort and doesn't retard decisions to treat.
- Non-steroidal anti-inflammatory drugs (care if risk of peptic ulcer disease) or opioids (if there is severe pain) are good analgesics.
Further reading & references

2. Lyon C, Clark DC; Diagnosis of acute abdominal pain in older patients. Am Fam Physician. 2006 Nov 1;74(9):1537-44.
4. Acute Left Iliac Fossa/Pelvic Pain; Diagnostic Imaging Pathways, Government of Western Australia, Department of Health

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