

Abdominal Pain

History

1. Location

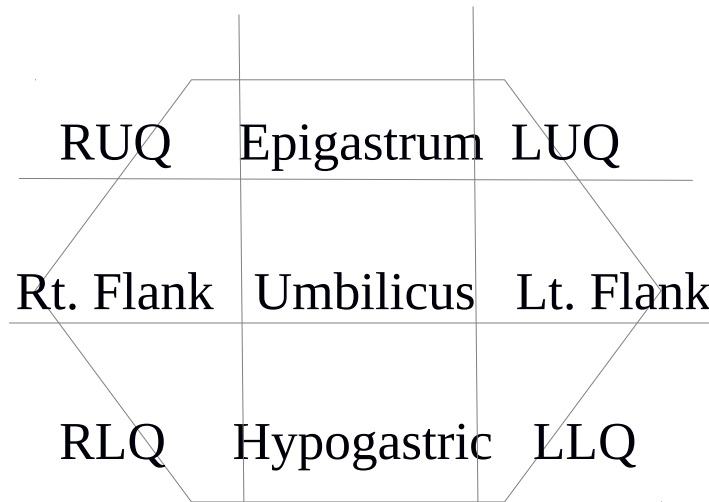


Table 1: Differential diagnosis of abdominal pain, according to location and corresponding anatomy

| Location | Anatomy | GI Causes | Non-GI causes |
|------------|------------------------------------|---|--------------------------------|
| RUQ | Liver, gallbladder, pancreas | Hepatitis/abscess, Cholecystitis, CBD stone, Pancreatitis, Duodenitis, PUD | Pneumonia, Pleural effusion |
| Epigastric | Stomach, duodenum, pancreas | Gastritis, PUD Duodenitis, Pancreatitis | Cardiac (ischemia, MI) |
| LUQ | Spleen, pancreas (tip), stomach | Splenic (infarct/rupture), Pancreatitis, Gastritis | Pneumonia, Pleural effusion |
| Umbilical | T. Colon, small bowel | Colitis, Bowel obstruction/perforation, *early appendicitis | Aortic dissection/ aneurysm |
| Flanks | Large bowel | Colitis, | Kidney stones, |

| | | | |
|-------------|------------------------------------|--|---|
| | | Perforation, Volvulus, Obstruction | Pyelonephritis |
| RLQ | Terminal ileum, cecum, appendix | Colitis, Appendicitis | ♀ :Ectopic pregnancy, PID, TOA ♂ : Torsion, epididymitis, orchitis |
| Hypogastric | Small bowel | Obstruction, inflammation | UTI (Cystitis), stones |
| LLQ | Descending colon | Colitis, diverticulitis | Ectopic pregnancy, TOA, Torsion, epididymitis, orchitis |

CBD: Common bile duct; PUD: peptic ulcer disease; MI: myocardial infarct; T. Colon: transverse

colon; ♀ : female; ♂ : male; PID: pelvic inflammatory disease; TOA: tubal ovarian abscess; UTI: urinary tract infection

*early appendicitis is diffuse pain that is often found in the umbilical region, which then migrates to RLQ.

2. Onset

Table 2: Differential diagnosis of abdominal pain, according to onset

| Abrupt | Gradual/insidious |
|---|--|
| Vascular: - aortic dissection / rupture - ischemia / infarct Obstructive: - biliary tree - GI - Urinary | - NON-vascula, NON-obstructive - Infection / inflammation |

3. Course of pain

Constant versus colicky (ie. Intermittent)

Colicky suggests obstruction in: biliary tree, GI, or urinary tract

4. Associated Symptoms

Table 3: Potential causes according to the cluster of symptoms

| Cluster of Symptoms | Potential cause |
|---|-----------------------|
| Diarrhea, vomiting, fever, sick contact | Infectious |
| Fever, previous flares | Inflammatory |
| Vomiting, decreased or no flatus | Obstruction |
| Increased pain with cough | Peritoneal irritation |
| Hematuria, dysuria | Urological |
| Pelvic bleed/ discharge | Gynecological |

Physical Exam

1. Vital Signs (VS):

↑ HR : could be due to pain

↑ Temp: inflammatory/ infection

↓ Oxygen sat: Respiratory cause

Unstable VS (↑ HR/ ↓ BP): SHOCK (either septic or hemorrhagic)

2. General:

Is there peritonitis? --> Inflammation/infection

a- localized: patient has difficulty walking

DDx: appendicitis, diverticulitis, pancreatitis, ischemic colitis

b- generalized: patient lying still on stretcher

DDx: progression from localized (appendicitis, diverticulitis, pancreatitis, ischemic colitis)

Other causes: GI perforation, PUD, Obstruction

3. Abdominal Exam

Observation

- Surgical scars (think of adhesions --> bowel obstruction)
- Hernia

Auscultation

- Bowel sounds (↓ in ileus; ↑ with infection/obstruction)
- Lungs (RUQ/LUQ pain --> pneumonia?)
- Heart (Epigastric pain)
- Bruit (vascular lesion)

Palpation (may need analgesic first)

- Tenderness, point of maximal pain
- Rebound tenderness
- Guarding
- Mass
- Hernia (soft? Reducible?)

Other physical exam

Table 4: Other physical exam to be done according to location of pain

| Location | Physical Exam |
|------------|---------------------|
| RUQ/LUQ | Lungs |
| Epigastric | Heart |
| Flanks | Kidneys |
| RLQ, LLQ | Testicular / Pelvic |

*Testicular exam: look for torsion, hernia, swelling, and tenderness

**Pelvic exam: look for discharge (TOA/PID), Bleeding (ectopic pregnancy)

Investigations

Labs

- CBC, Lytes, Cr
- Specific tests

↑ WBC: infection/inflammation

↓ Hg: bleeding

↓ K+: diarrhea

↑ Cr: hypovolemia

Table 5: Specific tests according to location of pain

| Location | Physical Exam |
|-----------------|------------------------------|
| RUQ | ALT/AST, Bilirubin, ALK Phos |
| Epigastric | ECG, CK, Troponin |
| Flanks | Urine |
| Umbilicus | Lipase, amylase, lactate |
| RLQ, LLQ | Urine/blood BHCG, swabs |
| Hypogastric | Urine |

Imaging

- X-ray: pneumonia, bowel obstruction, perforation, foreign body
- Bedside U/S: Free fluid, AAA, IUP
- Formal U/S:
 - RUQ: Cholecystitis, gallstone, CBD stones, cholangitis
 - LUQ: Splenic laceration/infarct, vein thrombosis
 - Flanks: Hydronephrosis, kidney stones
 - Umbilicus: Aortic size

- RLQ*: Appendicitis
- LLQ*: Diverticulitis

*Can also assess for ectopic pregnancy, TOA, torsion, epididymitis

U/S: ultrasound; AAA: abdominal aortic aneurysm; IUP: intrauterine pregnancy; CBD: common bile duct

- CT: higher sensitivity and specificity; however, risk of radiation and contrast

Treatment

Unstable: Resuscitation

- Airway (patent)
- Breathing: Oxygen if low Sat
- Circulation: monitor Vital Signs; administer IV fluids

Stable:

1) NPO

2) Meds:

- Pain: IV opiates
- Antiemetics (when vomiting)
- Antibiotics if suspecting infection (gram +ve, -ve, and anaerobes)

3) Surgery:

- Stable: determine cause and then refer
- Unstable: refer immediately

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