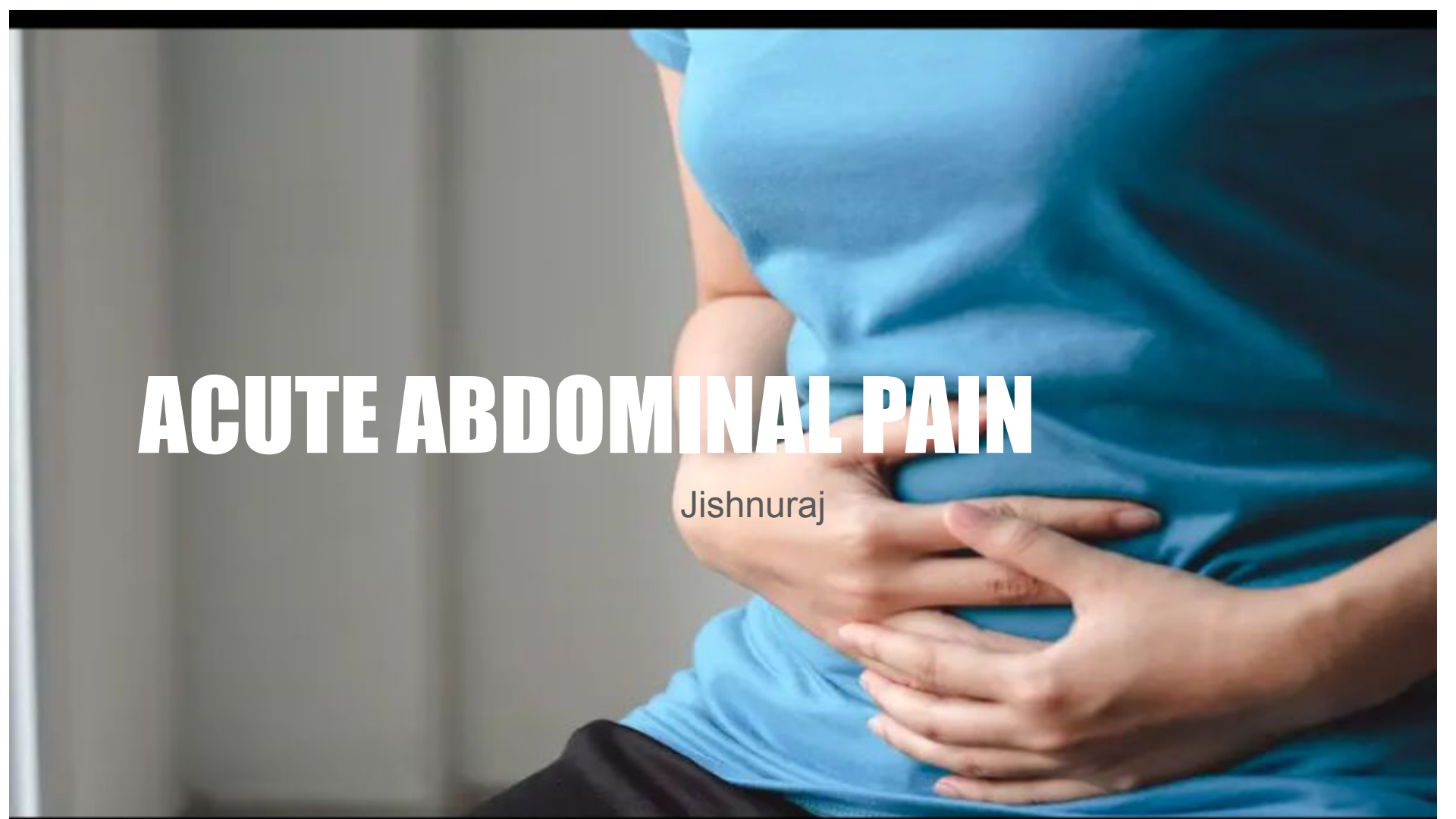


A pregnant woman is shown from the waist up, wearing a bright blue t-shirt. She is holding her pregnant belly with both hands, looking down at it. The background is a blurred indoor setting. The text 'ACUTE ABDOMINAL PAIN' is overlaid in large, bold, white capital letters across the center of the image.

ACUTE ABDOMINAL PAIN

Jishnuraj

DIFFERENTIAL DIAGNOSIS

INTRA-ABDOMINAL CAUSES

- INFLAMMATION :
 - Acute appendicitis
 - Acute cholecystitis
 - Acute pancreatitis
 - Acute colonic diverticulitis
 - Acute regional ileitis
 - Acute salpingitis
 - Acute non specific mesenteric lymphadenitis
 - Acute ulcerative colitis
 - Subdiaphragmatic abscess
 - Amoebic liver abscess
- PERFORATION
- ACUTE INTESTINAL OBSTRUCTION
- HAEMORRHAGE & TORSION
- COLIC

DIFFERENTIAL DIAGNOSIS

PERFORATION

- Peptic perforation
- Perforation of typhoid Ulcer
- Perforation of ulcerative colitis
- Perforation of diverticulum disease of colon

ACUTE INTESTINAL OBSTRUCTION

- Acute intussusception
- Volvulus of sigmoid colon
- Volvulus of caecum
- Meconium ileum
- Volvulus of midgut
- Gallstone ileum
- Mesenteric vascular obstruction
- Intestinal obstruction due to worms
- Bolus obstruction

HAEMORRHAGE & TORSION

- Ruptured ectopic gestation
- Ruptured follicular cyst
- Twisted ovarian cyst
- Ruptured or leaking aortic aneurysm
- Aortic dissecting aneurysm

COLIC

- Biliary colic
- Ureteric colic
- Intestinal colic
- Appendicular colic

EXTRA ABDOMINAL CAUSES

Parietal conditions-

- superficial cellulitis of abd wall
- gas gangrene
- rupture of rectus abdominis or Tearing of inferior epigastric artery

Thoracic conditions

- diaphragmatic pleurisy
- lobar pneumonia, pericarditis, angina pectoris, Coronary thrombosis

Retro-peritoneal conditions

- uremia, pyelitis, retroperitoneal Lymphangitis, dissecting aneurysm

Diseases of spine, spinal cord and intercostal nerves

- potts disease, Acute osteo myelitis, herpes zoster of intercostal nerves and intercostal neuralgia

General diseases

- malaria, typhoid, porphyria, sickle Cell anemia, purpura, small pox, hemophilia

Acute appendicitis

A very common cause of acute abdominal pain. · Highest incidence is between ages 20-30; rare before age 2.

Classic Pain Presentation

- · Initial Pain: Visceral, dull, and aching. Felt in the epigastrium or around the umbilicus.
- · Later Pain: Shifts to the right iliac fossa (McBurney's point). This is due to parietal peritoneal irritation.
- · Character: Dull ache in non-obstructive type; severe colicky pain in obstructive type.

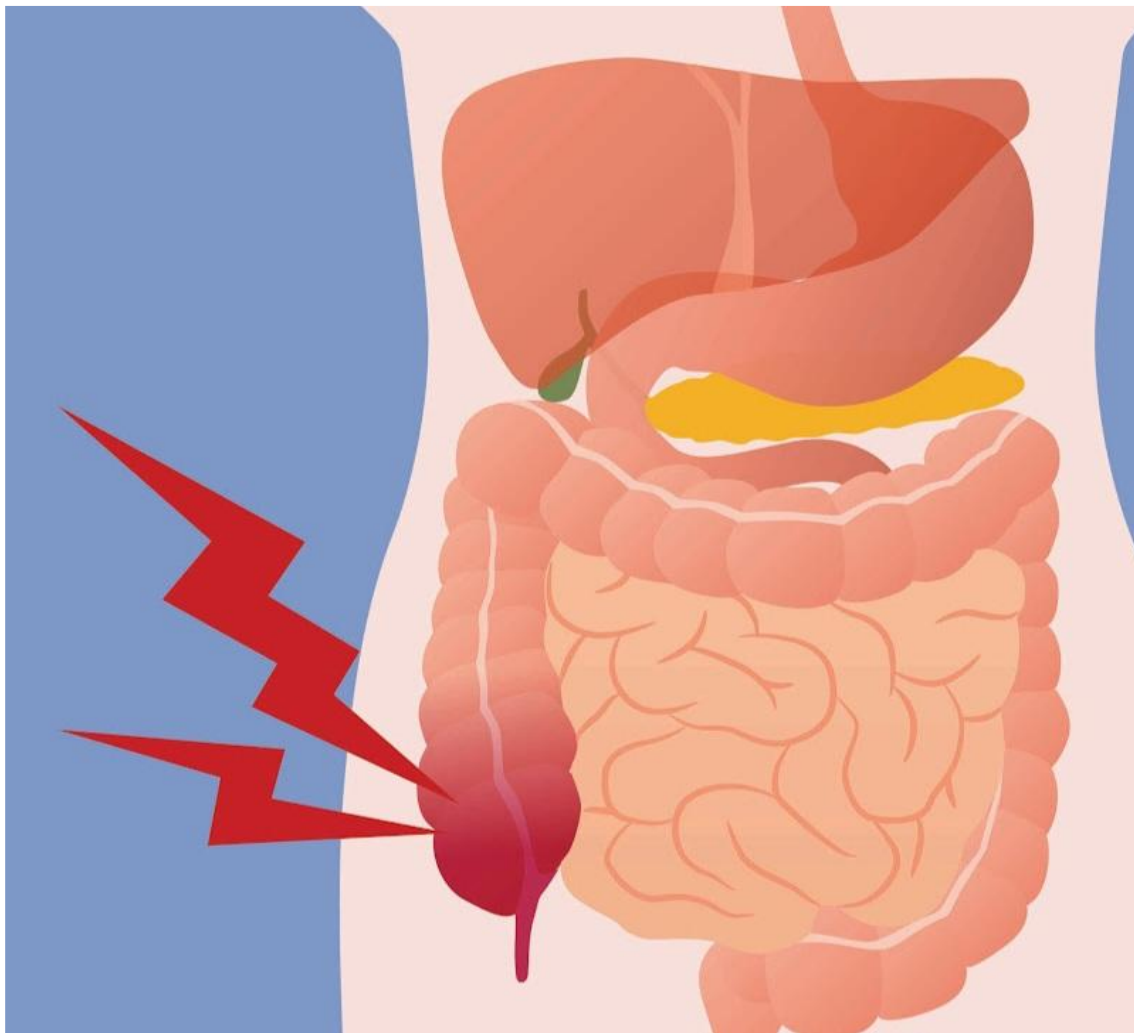
Associated Symptoms

- · Sequence: Pain → Nausea/Vomiting → Fever (known as Murphy's syndrome).
- · Bowel Habit: Usually constipation, but diarrhea can occur with pelvic appendicitis.

Key Examination Findings - Tenderness: Maximum at McBurney's point.

· Signs:

- · Rovsing's sign: Palpation of left iliac fossa causes pain in the right iliac fossa. A definitive diagnostic clue.
- · Muscle guarding and rebound tenderness.
- · Appendicular Lump: A tender, fixed mass that may form after 2-3 days.



Acute cholecystitis

Pain in Acute Cholecystitis

Location: Severe pain in the Right Hypochondrial region.

Radiation: Radiates to:

- · The inferior angle of the right scapula.
- · The top of the right shoulder.

Character & Onset

- · Often has a previous history of indigestion (flatulent dyspepsia).
- · The acute attack is characterized by severe pain.

Associated Clinical Signs · Tenderness and rigidity are easily elicited at the gallbladder point.

· Part of Charcot's Triad (a sign of ascending cholangitis):

- 1. Pain
- 2. Jaundice
- 3. Rigors (fever and chills)

Acute colonic diverticulitis

1. LOCATION

- Primary: Left Iliac Fossa (LIF)
- Site corresponds to the pelvic colon (sigmoid colon), which is most commonly affected.

2. CHARACTER & ASSOCIATED FINDINGS

- Tenderness on palpation.
- A thickened, tender pelvic colon can often be felt as a mass in the left abdomen.
- Muscular rigidity is always present.

3. COMPLICATIONS AFFECTING PAIN

- Localized Abscess: Pain may intensify and become more localized if a peridiverticular abscess forms.
- Intestinal Obstruction: Pain may become colicky if the thickened colon causes a blockage.
- Fistula Formation: Pain may change or be associated with new symptoms (e.g., pneumaturia) if the abscess bursts into another organ like the bladder.

Key Differentiator: The classic presentation is pain and tenderness localized to the Left Iliac Fossa (LIF), in contrast to appendicitis, which typically affects the Right Iliac Fossa (RIF).

Acute pancreatitis

Pain Characteristics : LOCATION -

- Primary: Epigastrium (upper central abdomen).
- Radiation: Pierces through to the back or left loin

CHARACTER & SEVERITY - Quality: Excruciating, agonizing, constant. Considered the most severe pain among all abdominal conditions. Constant in nature (not colicky)

AGGRAVATING & RELIEVING FACTORS

- · Worse when lying down
- · Relieved by sitting up and leaning forward (patients assume this position)

. TEMPORAL PATTERN

- · Sudden onset
- · Constant (not intermittent)

ASOCIATED FEATURES

- · Profuse, projectile vomiting that follows the pain
- · Shock and cyanosis may be present
- · Tenderness above umbilicus but minimal muscle guarding initially
- · Left costo-vertebral angle tenderness (tail of pancreas inflammation)

Key Differentiator: The positional nature of pain (worse lying down, relieved sitting forward) is highly characteristic.

Acute regional ileitis

1. Primary Location: The pain is located in the right iliac fossa. This is the same area where appendicitis pain is typically felt, making the two conditions easy to confuse initially.

2. Character and Timing of Pain:

- Acute Pain: During an acute attack, the pain is localized to the right iliac fossa.
- Chronic, Previous History: Crucially, there is often a long previous history of intestinal colic. This is a key differentiating feature from appendicitis.

3. Cause of the Pain: The colicky pain is due to intermittent intestinal obstruction, which is a characteristic feature of regional ileitis and is not found in appendicitis.

4. Associated Symptoms (that support the diagnosis):

- Diarrhea is frequently present and is considered "peculiar to this condition." It is not seen in appendicitis before the onset of an attack.
- The presence of anal complications like fissure, fistula, or skin tags makes the diagnosis of regional ileitis more certain when pain is present.

5. Other Clinical Signs:

- A tender mass may be felt in the right iliac fossa, which can also be detected during a pelvic examination.
- If an appendix-like lump does not resolve with medical treatment, Crohn's disease is the primary condition to consider.
- If a persistent sinus forms after an appendicectomy, it should raise suspicion of underlying Crohn's disease

Acute salpingitis

- Location: Primarily felt in the sides of the hypogastrium (lower abdomen) or the iliac fossae.
- Onset & Character: The pain remains static in the iliac fossa from the start.
- Key Differentiator from Appendicitis: Unlike appendicitis (where pain migrates from the umbilicus to the right iliac fossa), the pain in salpingitis does not shift.
- Associated Signs:
 - Often begins during menstruation or after abortion/delivery.
 - High fever (up to 102°F or more).
 - Difficulty and scalding pain during urination (dysuria).
 - Abdominal rigidity is less pronounced than in appendicitis.
 - Vaginal discharge is a common feature.

Acute Ulcerative colitis

- Pain characterized by relapses and remissions.
 - The condition is primarily defined by incessant diarrhea containing blood, mucus, and pus.
- Systemic & Associated Signs:
 - High fever and a significant toxic state.
 - Severe abdominal distension from potential toxic megacolon.
 - Complications like erythema nodosum and arthritis indicate systemic involvement.

Subdiaphragmatic abscess

- Location:
 - Primary: Felt locally over the abscess in the hypochondriac region (upper abdomen, below the ribs).
 - Referred: May be referred to the corresponding shoulder (right or left) due to irritation of the diaphragm.
- Character & Cause:
 - The pain arises as a complication of a previous intraperitoneal condition (e.g., perforated ulcer, appendicitis, abdominal surgery).
 - It is part of a clinical picture that includes fever, elevated pulse, and increased respiratory rate.
- Clinical Significance:
 - Its presence aids in diagnosis, but the condition often lacks definitive signs.
 - Localized tenderness over the abscess can be elicited on careful palpation.

Amoebic liver disease

.Location: Acute pain in the right hypochondriac or epigastric region.

- Aggravating Factors: Pain is characteristically increased by:

- Movement: Walking or riding a vehicle.

- Jarring/Vibration: The patient often instinctively supports the upper right abdomen with their hands to guard against this.

- Alcohol consumption.

- Associated Features: The pain is typically accompanied by pyrexia (fever), rigors (chills), and profuse night sweats.

- Clinical Signs: On examination, a tender, palpable swelling may be found that moves with respiration.

Peptic perforation

- Onset & Location: Sudden, severe burning pain in the epigastrium.
- Radiation: Often radiates to the right shoulder or down to the right iliac fossa.
- Evolution:
 - Stage 1 (Peritonism): Intense, localized pain and rigidity.
 - Stage 2 (Reaction): Pain may temporarily subside, but rigidity remains.
 - Stage 3 (Peritonitis): Generalized pain with "board-like" abdominal rigidity and systemic collapse.

Perforation of typhoid Ulcer

- Onset: Sudden pain in the abdomen.
- Context: Occurs in the 3rd or 4th week of typhoid fever.
- Key Differentiator: The presence of pain, along with tenderness and rigidity, helps distinguish perforation from typhoid hemorrhage, which also causes sudden collapse.
- Associated Signs:
 - Abdominal tenderness and rigidity (even if slight).
 - Obliteration of liver dullness.
 - Positive shifting dullness test.

Perforation of ulcerative colitis

It is a rare (4%) but severe complication of fulminant ulcerative colitis, often preceded by toxic megacolon.

- Onset & Character:

- Sudden, severe abdominal pain.

- Associated Signs:

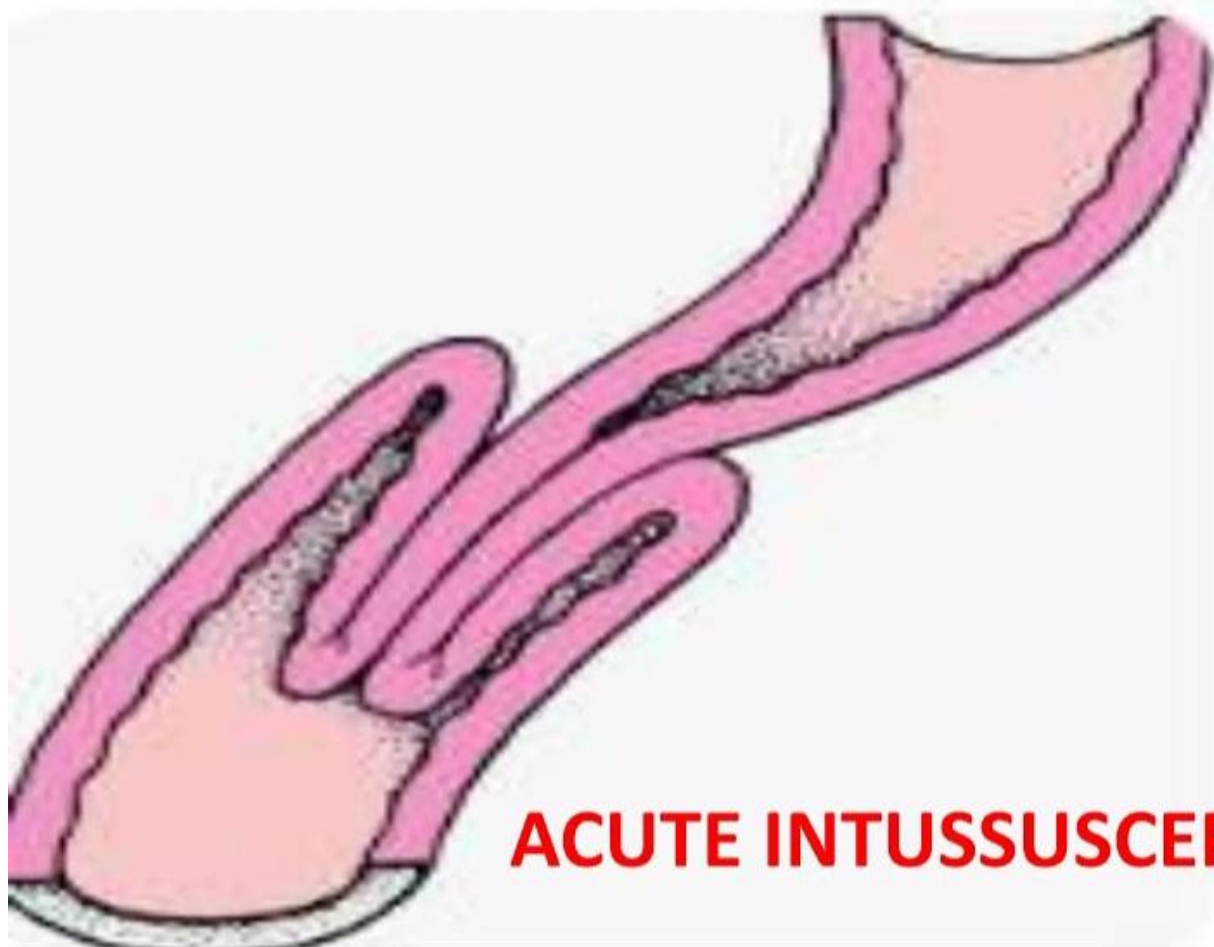
- Abdominal distension.

- Shock.

- Signs of generalized peritonitis.

Acute intussusception

- Patients: Typically affects healthy male infants, 6 to 12 months old.
- Onset: Sudden.
- Character & Rhythm:
 - Severe, intermittent, colicky abdominal pain.
 - The child screams, draws legs up during episodes.
 - Attacks last a few minutes and recur frequently (e.g., every 15 minutes).
 - Between attacks, the child may appear listless and drawn.
- Key Associated Sign: Facial pallor accompanies each painful attack.
- Clinical Correlation: A palpable sausage-shaped abdominal lump often hardens synchronously with the pain.



ACUTE INTUSSUSCEPTION

Volvulus of sigmoid colon

Sigmoid Volvulus - Pain & Symptoms

- Patients: Middle-aged/elderly males.
- Pain: Sudden, acute, left-sided abdominal pain.
- Key Sign: Severe abdominal distension.
- Bowel: Absolute constipation.
- X-ray: Shows enormous gas-filled sigmoid colon.

Volvulus of caecum

Volvulus of the Caecum

- Age Group: Young adults (20-30 years).
- Cause: Lax and mobile right colon.
- Symptoms: Abdominal distension starting in the right lower quadrant.
- X-ray Finding: Large gas-filled caecum.

Meconium ileus

- Cause: A complication in 5-10% of infants born with fibrocystic disease of the pancreas.
- Pathology: Small bowel obstruction due to abnormal, thickened (inspissated) meconium from inadequate pancreatic and intestinal enzymes.
- Onset: The infant is born with intestinal obstruction.
- Family History: Often present.
- X-ray Findings:
 - Distended loops of small intestine.
 - Scarcity or absence of fluid levels in the upright film.
 - A 'soap bubble' or 'ground glass' appearance in the abdomen, caused by air mixing with the thick meconium.



Volvulus of Mid-gut

Cause: Arrested rotation of gut

- Mechanism: Cecum + small intestine twist on narrow mesentery
- Age: Newborns
- Nature: Congenital surgical emergency

Gallstone ileus

Pain in Gallstone Ileus

- Type: Cramping, colicky abdominal pain.
- Pattern: Intermittent or subacute obstruction.
- Cause: Mechanical blockage of the intestine by a gallstone.
- Associated Symptoms: Abdominal distension and vomiting.

Mesenteric valvular obstruction

Pain in Mesenteric Vascular Obstruction

- Type: Colicky pain
- Severity: Quite severe
- Associated Features:
 - Pronounced shock
 - Abdominal distension
 - Frequent vomiting
 - May mimic acute appendicitis
- Key Signs: Localized rigidity and tenderness over the infarcted bowel area

Intestinal obstruction due to worms

- Type: Colicky abdominal pain
- Cause: Luminal obstruction of distal small bowel by *Ascaris lumbricoides*
- Sign: Tender, palpable swelling in right iliac fossa (painful on pressure)
- Complication: Severe generalized pain if perforation peritonitis occurs

Bolus obstruction

- Cause: Obstruction by insufficiently masticated food in the distal small intestine.
- Common Culprits: Dried fruit, coconut, unmasticated orange pulp.
- Site: Narrowest part of small intestine (about 2 feet proximal to ileocaecal valve).
- Predisposing Factor: Typically occurs after partial gastrectomy.
- Mechanism: Food bypasses normal gastric digestion and forms an obstructing bolus.

Ruptured ectopic gestation

- Onset: Sudden, acute hypogastric pain with tremendous shock.
- Patient Profile: Woman of child-bearing age with 1-2 missed periods.
- Pain Location & Radiation:
 - Severe pain mainly in the hypogastrium.
 - Radiates backwards, downwards.
 - May become generalized and involve the shoulder tip (due to diaphragmatic irritation from blood).
- Examination Findings:
 - Abdominal: Deep hypogastric tenderness, rebound tenderness, shifting dullness (if significant haemoperitoneum).
 - Vaginal: Cervical motion tenderness, tender fornices, soft cervix.
- Key Signs: Restlessness, air-hunger, pallor, and thready pulse indicate progressive shock from internal bleeding.

Ruptured follicular cyst

Patient: Young woman.

- Timing: Pain presents in the middle of the menstrual cycle (ovulation).
- Pain Location: Lower abdominal pain, specifically commencing in the right iliac fossa.
- Key Diagnostic Clue: Pain starts directly in the right iliac fossa; does not start at the umbilicus/epigastrium and then shift.
- Differential: Can mimic acute appendicitis.
- Critical History: Must ask for the date of the Last Menstrual Period (LMP) to exclude ectopic pregnancy.
- Complication: Can cause significant intraperitoneal haemorrhage (rare), leading to a positive shifting dullness test.

Twisted ovarian cyst

- Symptoms: Sudden onset of colicky abdominal pain with frequent vomiting.
- Examination Finding: A palpable lump in the lower abdomen that is:
 - Tense
 - Tender
 - Cystic
 - Has a smooth margin
- Key Diagnostic Clue: History that the lump was present before the acute pain started.
- Note: Overlying rigidity may hide the lump. A small, pelvic cyst may only be detectable on vaginal examination.

Ruptured aortic aneurysm

- Patient: Middle-aged or elderly male, often a known hypertensive.
- Presentation: Severe upper abdominal/lower chest pain with marked shock.
- Pain: Severe, central/upper abdominal, radiating through to the back.
- Key Sign: Catastrophic drop in blood pressure.
- Examination Findings:
 - Considerable anaemia.
 - Rigidity of the central abdomen (more to the left).
 - A palpable, pulsatile mass (if not fully ruptured).
 - A mass in the left iliac fossa (blood clot).
 - Feeble or absent arterial pulses in the lower limbs.

Aortic dissecting aneurysm

Aortic Dissecting Aneurysm - Pointed Notes

- Cause: Often due to high-degree hypertension.
- Pain:
 - Quality: Excruciating.
 - Location: Starts retrosternally, radiates between the shoulders to the back.
 - Spread: Extends to the upper abdomen as the dissection progresses.
- Vital Signs: Signs of shock are apparent, but blood pressure may be normal in a previously hypertensive patient.
- Key Diagnostic Sign: Inequality or disappearance of pulses in the upper or lower extremities as the dissection affects branch arteries.

Biliary colic

Biliary Colic - Pain Characteristics

- Type: Severe, intermittent, colicky pain.
- Location: Right hypochondrium.
- Radiation: To the inferior angle of the right scapula and right shoulder.
- Cause: Spasm of the gallbladder, typically from a stone in the cystic duct.
- Associated Signs: Tenderness over the gallbladder; jaundice may or may not be present.

Ureteric colic

Ureteric Colic - Pain Characteristics

- Onset: Sudden, severe pain.
- Location: Starts in the loin (flank).
- Radiation: Radiates down to the groin, testis, or inner thigh.
- Associated Symptoms: Vomiting, profuse sweating.
- Signs: Tenderness over the renal angle; testis may be retracted on the affected side.
- Cause: A stone blocking the ureter.

Intestinal colic

Intestinal Colic - Pain Characteristics

- Type: Gripping, colicky pain.
- Causes:
 - Small intestinal obstruction.
 - Toxic (catarrhal) enteritis from improper food.
 - Lead poisoning (Lead Colic).
- Distinguishing Features:
 - Enteritis: History of improper diet, affects multiple people, presence of diarrhoea.
 - Lead Colic: Patient is a painter, blue line on gums, severe constipation.

Appendicular colic

Appendicular Colic - Pain Characteristics

- Type: Colicky pain.
- Location: Right iliac fossa.
- Associated Symptoms: Vomiting and rise of temperature.
- Significance: Indicates obstructive appendicitis.
- Severity: More serious than unobstructive appendicitis; high risk of gangrene and perforation, requiring immediate surgery.

Rectus abdominis muscle rupture/Tearing of inferior epigastric artery

- Cause: Coughing, pregnancy, or anticoagulant therapy.
- Symptom: An extremely tender lump.
- Location: Below the arcuate line, above the pubic bone; more medial than an appendicitis lump.
- Key Sign: Bruising of the overlying skin confirms a torn artery.
- Diagnostic Test: Pain and lump become more prominent when lifting both legs with knees straight.
- Differential: Differentiated from a strangulated Spigelian hernia by the absence of vomiting.

Thank you