

Acute Appendicitis

Dr Mohammad Tarawneh

School of Medicine

The University of Jordan

Learning Objectives

- Define acute appendicitis
- Understand anatomy and pathophysiology
- Recognize clinical presentation
- Interpret investigations
- Understand management and complications

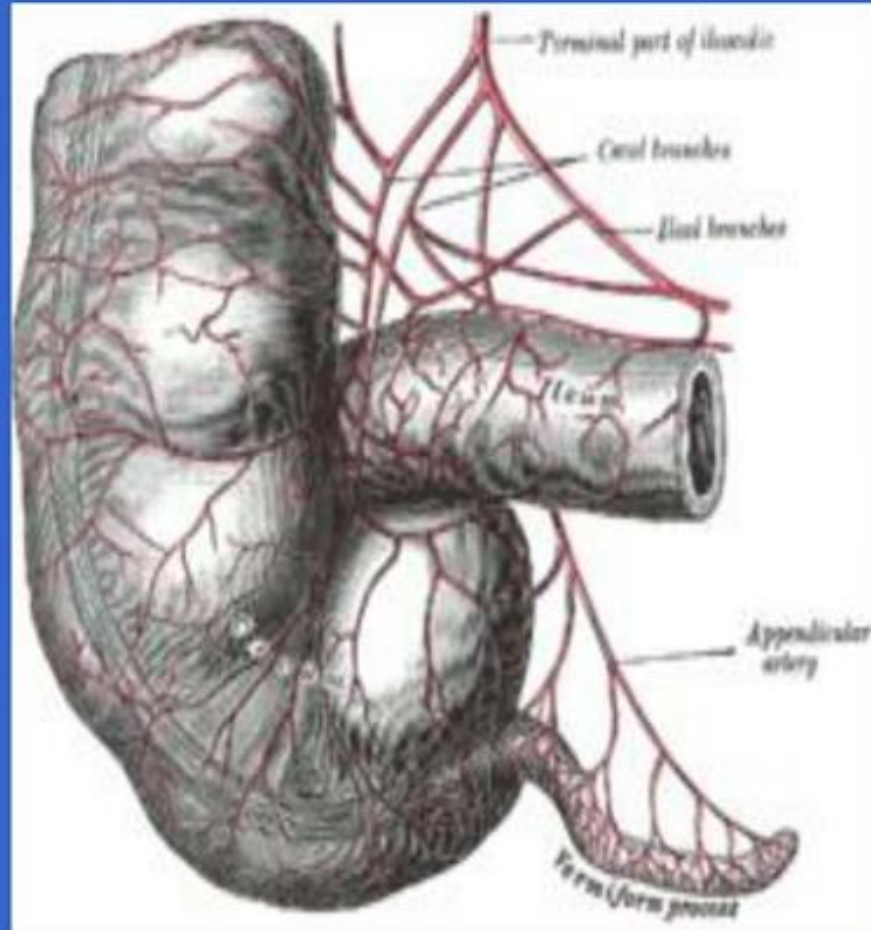
Introduction

- Acute appendicitis is the most common surgical emergency
- Caused by inflammation of the vermiform appendix
- Peak incidence: adolescence and young adults
- Can occur at any age

Anatomy of the Appendix

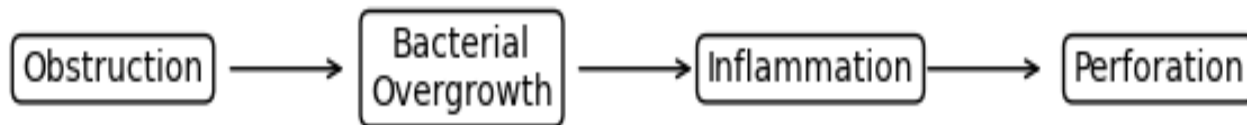
- Blind-ended tube arising from the cecum
- Located near the ileocecal junction
- Common positions: retrocecal, pelvic, subcecal
- Blood supply: appendicular artery (branch of ileocolic artery)

Anatomy



Pathophysiology

- Luminal obstruction is the usual initiating event
- Causes: fecalith, lymphoid hyperplasia, parasites, tumors
- Obstruction → bacterial overgrowth → inflammation
- Progression may lead to ischemia, perforation, and abscess



Epidemiology and Risk Factors

- Lifetime risk approximately 7–8%
- More common in males
- Peak age: 10–30 years
- Low-fiber diet may increase risk

Clinical Presentation

- Periumbilical pain migrating to the right lower quadrant
- Anorexia, nausea, vomiting
- Low-grade fever
- Pain worsens with movement or coughing

Physical Examination

- Tenderness at McBurney's point
- Rebound tenderness and guarding
- Rovsing sign
- Psoas and obturator signs in selected cases

Differential Diagnosis

- Mesenteric adenitis
- Gastroenteritis
- Meckel diverticulitis
- Renal colic
- Gynecological causes in females

Investigations – Laboratory

- Leukocytosis with neutrophilia
- Elevated CRP
- Urinalysis to exclude urinary causes
- Pregnancy test in females of reproductive age

Investigations – Imaging

- Ultrasound: useful in children and pregnant patients
- CT scan: high sensitivity and specificity
- MRI may be used in pregnancy
- Imaging helps identify complications

Alvarado Score

- Clinical scoring system aiding diagnosis
- Based on symptoms, signs, and laboratory findings
- Score ≥ 7 suggests likely appendicitis
- Used as a supportive tool, not a replacement for clinical judgment

Complicated Appendicitis

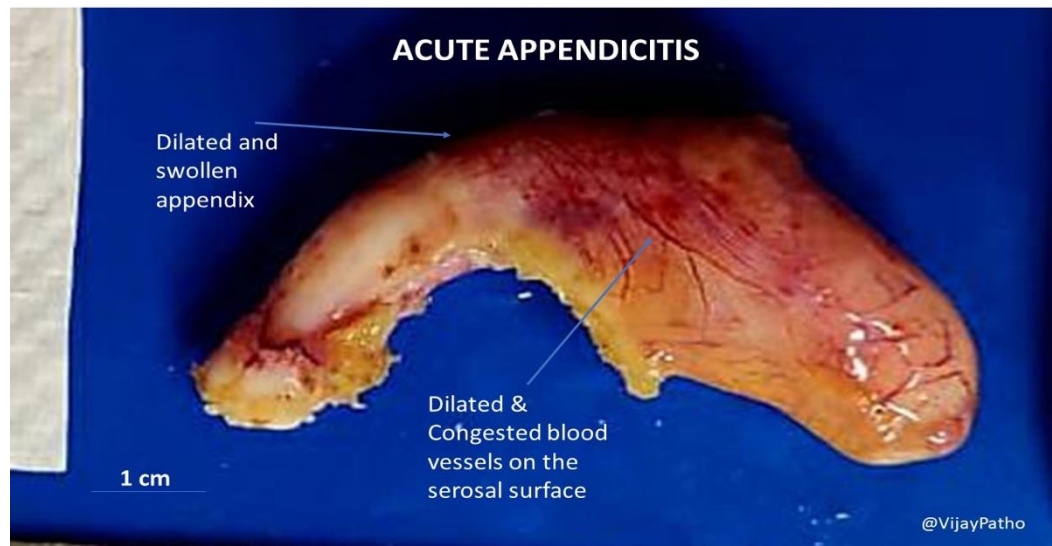
- Perforation
- Appendicular abscess
- Generalized peritonitis
- Sepsis

Management Principles

- Resuscitation and IV fluids
- Analgesia and antiemetics
- Antibiotics
- Definitive treatment is usually appendectomy

Surgical Treatment

- Laparoscopic appendectomy is commonly preferred
- Open appendectomy remains an option
- Benefits of laparoscopy: less pain and faster recovery
- Specimen sent for histopathology



Non-operative Management

- Selected uncomplicated cases may be treated with antibiotics
- Requires careful patient selection
- Recurrence remains possible
- Not suitable for all patients

Complications

- Wound infection
- Intra-abdominal abscess
- Ileus
- Adhesive bowel obstruction

Special Situations

- Children may present atypically
- Elderly patients may have delayed diagnosis
- Pregnancy changes anatomical location and presentation
- Higher perforation risk in extremes of age

Key Take-Home Messages

- Acute appendicitis is a clinical diagnosis supported by investigations
- Early diagnosis reduces complications
- Laparoscopic appendectomy is standard treatment in many centers
- Always consider differential diagnoses

Thank You

- Questions and Discussion