

Abdominal Pain

Assumption

The student understands the anatomy (including blood supply and three-dimensional relationships) and physiology of the abdominal viscera and is able to perform a focused abdominal exam.

Goal

The student will be able to describe the initial evaluation, differential diagnosis, and management of a patient with abdominal pain, and determine when emergent intervention is required.

Objectives

By the end of the core surgical clerkship, the student will be able to:

1. Develop a differential diagnosis for a variety of patients presenting with abdominal pain and understand when to obtain surgical consultation.
 - a. Discuss the presentation, diagnostic strategy and treatment of patients presenting with the following:
 - 1) Acute appendicitis
 - 2) Biliary colic/cholecystitis/choledocholithiasis/cholangitis
 - 3) Pancreatitis
 - 4) Peptic ulcer disease (both with and without perforation)
 - 5) Gastroesophageal reflux
 - 6) Gastritis/duodenitis
 - 7) Diverticulitis (both with and without perforation)
 - 8) Inflammatory bowel disease
 - 9) Enterocolitis
 - 10) Small bowel obstruction (adhesions, hernia incarceration, tumor, intussusception, volvulus) **Refer to Vomiting, Diarrhea, and Constipation module.*
 - 11) Colon obstruction (volvulus, Hirschsprung's disease, tumor) **Refer to Vomiting, Diarrhea, and Constipation module.*
 - 12) Splenomegaly/nontraumatic splenic rupture **Refer to Abdominal Mass module.*
 - 13) Mesenteric ischemia
 - 14) Leaking/ruptured abdominal aortic aneurysm **Refer to Abdominal Mass module.*
 - 15) Gynecologic etiologies (ectopic pregnancy, ovarian torsion, ovarian cyst, tubo-ovarian abscess, salpingitis, endometriosis)
 - 16) Genito-urinary etiologies (UTI, pyelonephritis, testicular torsion, ureterolithiasis)
 - b. Discuss the presentation, diagnosis and treatment of abdominal pain in the pediatric population, specifically:
 - 1) Malrotation/midgut volvulus
 - 2) Hernia **Refer to Abdominal Wall and Groin Mass module.*
 - 3) Hirschsprung's disease **Refer to Vomiting, Diarrhea, and Constipation module.*

Abdominal Pain (continued)

Objectives (continued)

- 4) Pyloric stenosis **Refer to Fluid & Electrolytes module for additional information.*
 - 5) Intussusception
 - 6) Meckel's diverticulitis
 - 7) Child abuse
2. Discuss the approach to patients with postoperative abdominal pain.

Problems

For each of the following problems, answer the following questions:

- What further data should be obtained from the patient's history?
 - What physical exam findings would you look for?
 - What is your differential diagnosis?
 - What further work up will you recommend?
 - What therapy or treatment will you recommend?
1. Patient #1 - 19-year-old previously healthy man with a 12-hour history of acute abdominal pain and fever
 2. Patient #2 - 72-year-old obese, diabetic lady with a three-day history of abdominal pain and fever
 3. Patient #3 – 3-day-old full-term infant with sudden onset of green emesis and fussiness
 4. Patient #4 - 10-month-old baby with an 8-hour history of colicky abdominal pain, low grade fever, anorexia and emesis

Skills

1. Conduct a focused history and physical examination (including rectal/genital/pelvic examinations) with emphasis on characterization of findings, differentiation of signs/symptoms of peritonitis and adjunctive maneuvers to enhance diagnostic ability.
2. Demonstrate the ability to:
 - a. Interpret laboratory findings and imaging modalities that contribute to the diagnosis of common abdominal problems.
 - b. Place NG tubes, IV catheters and Foley catheters. **Refer to ACS/ASE Medical Students Simulation-Based Surgical Skills Curriculum modules.*

Teaching Hints

1. Present multiple case scenarios that highlight pertinent features of various common abdominal pain syndromes.
2. Utilize labs, imaging studies and real/simulated patient interaction if possible.
3. Utilize variation on a theme to emphasize important features of common abdominal problems, such as the presentation of appendicitis in different age groups or in pregnant women.

Abdominal Pain (continued)

Teaching Hints (continued)

4. Divide students into pairs to have them work through a standard abdominal pain case. Compare the outcomes, quality and comprehensiveness between groups.
5. Challenge students to use evidence-based medicine in constructing diagnostic and treatment strategies.
6. Discuss the physiology of pain perception (including the differentiation of visceral, somatic and referred pain patterns involved in abdominal pain pathology).
7. Consider the normal bacterial flora of the GI, GU, and GYN systems.
8. Describe the keys to successful examination of infants and children with abdominal pain.
9. Characterize examination skills that may be useful in pregnancy, or in patients with altered neurologic states.
10. Explain the rationale for cost-effective utilization of various diagnostic modalities when evaluating abdominal pain.

Prevention

Discuss the early identification of emergent conditions.

Special Considerations

Discuss unique causes of abdominal pain in patients who are immunocompromised (patients on steroids, HIV positive, liver failure) and the implication on diagnosis, treatment, and outcomes.