

Abdominal Pain

Learning Objectives:

Knowledge

At the end of the subinternship, the subinterns should be able to:

- Describe the common causes of abdominal pain in hospitalized patient including
 - Intestinal obstruction and pseudo-obstruction
 - Diverticulitis
 - Obstipation/constipation
 - Ischemic colitis
 - Acute appendicitis
 - Biliary tract and liver disease
 - Pancreatitis
 - Complications of procedures such as paracentesis, ERCP and post-catheterization hemorrhage
 - Extra-abdominal causes of abdominal pain, including pulmonary and cardiac causes
 - Genito-urinary causes including urinary tract infections, pyelonephritis, renal calculi and pelvic disorders
 - Retroperitoneal hemorrhage
- Describe the signs and symptoms specific to the above conditions
- Identify the most likely cause of abdominal pain in a specific patient
- Recognize early signs of shock with intra-abdominal catastrophe
- Recognize that intra-abdominal pathology may present atypically in immunocompromised patients

Skills

At the end of the subinternship, the subinterns should be able to:

- Conduct a targeted history
- Rapidly evaluate the inpatient who develops abdominal pain while hospitalized
- Consider the reason for hospitalization; co-morbidities; recent procedures and current medications in this evaluation
- Conduct a focused chart review
- Conduct a physical examination
- Evaluate the patient for clinical stability
- Evaluate the patient for source of abdominal pain
- Evaluate the patient for peritoneal signs
- Perform serial physical examinations on the patient to assess for progression of disease

- Develop a management plan
- Provide appropriate resuscitative and supportive measures
- Demonstrate the ability to develop a differential diagnosis utilizing the collected data
- Order appropriate laboratory and radiology studies
- Request surgical and sub-specialty consultation as appropriate
- Write an appropriately detailed cross-coverage or follow-up note to document evaluation of the patient
- Provide analgesia when appropriate

Attitudes and Professional Behavior

At the end of the subinternship, the subinterns should be able to:

- Demonstrate a compassionate attitude towards patient with abdominal pain
- Demonstrate sensitivity to patient's pain while examining the patient
- Conduct themselves professionally when communicating with colleagues and consultants

References:

- Cartwright SL, Knudson MP. Evaluation of Acute Abdominal Pain in Adults. *Am Fam Physician* 2008;77(7):971-978
- Chat Dang, Patrick Alguira, Alexis Dang et al. Acute abdominal pain: Four classifications can guide assessment and management. *Geriatrics: March* 2002;57(3) 30-42.
- Clinical Policy: Critical Issues for the initial evaluation and management of patients presenting with chief complaint of non-traumatic acute abdominal pain. American College of Emergency Physicians. *Ann Emerg Med* 2000; 36(4):406-415.
- Thomas, SH, Silen W, Cheema, F, et al. Effects of morphine analgesia on diagnostic accuracy in emergency department patients with abdominal pain: A prospective randomized trial. *J AM Coll Surg* 2003;196:18.

Directions:

Begin by reading the references. Use the information from the background article (and other sources as appropriate) to answer the questions following each case. The questions are "open-ended" and therefore there are no right or wrong answers.

Section I

Case Scenario I:

Scenario: You are asked by your senior resident to evaluate a patient in the emergency room. Patient is a 72-year-old male with history of hypertension, diabetes, and congestive heart failure who presents to the hospital with complaints of crampy diffuse abdominal pain and hematochezia. His medications include hydrochlorothiazide, digoxin, enalapril, metoprolol and glucotrol. His past medical history is significant for benign prostatic hypertrophy, diabetic neuropathy and osteoarthritis.

A) What additional history would you like from the patient?

B) What symptoms of abdominal pain are suggestive of surgical or emergent conditions?

C) What are some of the causes of diffuse abdominal pain?

D) What are some of the causes of abdominal catastrophes that you would not want to miss?

Case continued.....

Physical exam revealed an elderly gentleman who appears in moderate distress secondary to his abdominal pain. On exam his pulse is 110/min, BP is 100/58, RR is 28, with a temperature of 100 degree Fahrenheit. Abdomen is minimally distended, soft but mildly tender, without organomegaly, pulsatile mass, ecchymosis or free fluid. The rest of his physical examination was within normal limits. Rectal exam reveals a diffusely large prostate with guiac positive stool.

E) What are the criteria to admit a patient presenting with abdominal pain to the hospital?

F) Based on your history and physical examination what is your most likely diagnosis?

Case continued....

A CT scan of the abdomen was ordered in the emergency room that revealed thickened sigmoid colon with some pericolonic stranding suggestive of ischemic colitis.

*G) Outline a general approach to the management of a patient with abdominal pain.
How would you manage this patient?*

Case Scenario II:

It is 2:00AM. You are the cross covering sub-intern. A nurse from the 2nd floor (orthopedics floor) calls you about a patient, “I am calling regarding a patient of Dr Gibbons, Ms Belle Hurtz who is complaining of abdominal pain.”

A) What key questions would you ask the nurse?

Case continued....

The nurse states that the patient is a 75-year-old female with history of dementia, osteoporosis, and hypertension who had been admitted for a right hip fracture. Patient is 3 days s/p open reduction and internal fixation of her right hip fracture. Her current medications include amlodipine, morphine prn for pain, metoprolol, low molecular weight heparin and calcium.

B) What are some of the causes of abdominal pain in a hospitalized patient?

C) Identify some of the key points that you need to focus on when you arrive at the patient's bedside

Case continued.....

On physical exam, the patient was drowsy with labored breathing. Her pulse was 110, BP 140/90, RR 28, temperature 100 degree Fahrenheit and a pulse ox of 94% on RA. Abdomen was distended and tympanitic with positive bowel sounds. There was no rebound tenderness or guarding. Chest had some occasional crackles in both bases. Cardiac exam: tachycardic without murmurs rubs or gallops. Chart review: Patient was day 3 s/p open reduction and internal fixation. She received three doses of Ancef in the peri-operative period and has been receiving morphine shots every 2 hours for pain control. She has not had a bowel movement since the hospital admission and has also been noted to have a decreasing urinary output during the last shift.

D) What is your next step in the management of this patient?

Case continued....

A plain X-Ray of the abdomen ordered revealed a dilated colon from the caecum to the splenic flexure. There is no evidence of stool in the rectum and descending colon. Laboratory data reveal a white blood cell count of 15,000 with a left shift. Her electrolytes were normal except for potassium of 3.0. Her liver enzymes were within normal limits. Cathed UA specimen was normal.

E) What are the indications for other imaging modalities in a hospitalized patient with abdominal pain?

F) Describe the further management of this patient.

G) What are some of the discharge issues you will have to deal with in this patient?

Section II

For each of the following clinical scenarios

- *list your top three-four differential diagnosis*
- *the initial diagnostic tests of choice*

Case 1

A 25 year old sexually active female presents to the ED with a 2 day history of left lower quadrant pain associated with low grade fever and chills. Patient denies vaginal discharge, dysuria, hematuria, flank pain. She also denies recent change in bladder and bowel habits. Her last menstrual period was 5 weeks prior to presentation.

Physical exam reveals a healthy female in distress secondary to abdominal pain.

Temperature is 100.5 degree Fahrenheit with stable vital signs. Abdominal exam reveals tenderness in the left lower quadrant and supra-pubic region without rebound or guarding. Patient has good bowel sounds. Rest of her exam is unremarkable.

Case 2

A 65 year old male with history of hypertension, hypercholesterolemia presents with a one day history of acute left lower quadrant pain associated with nausea and vomiting. Patient denies diarrhea, constipation, urinary symptoms, hematochezia or melena. Patient denies recent travel, sick contacts. His medications include aspirin, metoprolol and pravastatin. Review of systems is unremarkable.

On examination, temperature 101 degree Fahrenheit, BP 110/50mm Hg, PR 100/min. Cardiac and respiratory exam were unremarkable. Abdomen is minimally distended; there is tenderness in the left lower quadrant on palpation with minimal guarding. Bowel sounds are diminished. Rectal exam reveals brown stools that are heme positive.

Case 3

A 45 year old obese female with history of obstructive sleep apnea and depression presents with a one day history of right upper quadrant pain that started after a eating at a cookout. Patient describes the pain initially as colicky and then has been a constant pain associated with nausea and vomiting. Patient denies fevers, chills, cough, shortness of breath, and changes in urinary habits. Patient is not a smoker and denies alcohol use. Her current medications include Prozac and she wears a CPAP at night. Review of system is negative.

On examination patient is mild distress secondary to pain. She is febrile with stable vital signs. Patient has tenderness to palpation on the right upper quadrant and epigastrium and she has a positive Murphy's sign. There is no costovertebral tenderness. Rest of her exam was unremarkable.

Case 4

You are called to evaluate a patient on the cardiac floor with complaints of abdominal pain and back pain. Patient is a 55 year old male who was admitted three days prior with acute pulmonary embolism. Patient is an otherwise healthy male with no medical problems. His PE was attributed to the DVT he developed after long transcontinental flight. Patient was started on therapeutic lovenox and Coumadin.

Patient was doing fine till the onset of abdominal pain and back pain that has been progressively getting worse. Patient denies history of trauma, no PUD.

On physical exam, patient appeared diaphoretic and in moderate distress; the patient is afebrile with a BP 90/70mm of Hg, HR 100/min, RR 24/min. Lungs were clear to auscultation bilaterally, cardiac exam revealed tachycardia without murmurs, rubs or gallops. Abdomen was diffusely tender without guarding or rebound. There was minimal ecchymosis in the left flank.