Abdominal Distention (Clinical Case Study)

1. List the differential diagnosis of intestinal obstruction.
2. Identify signs and symptoms of a large bowel obstruction.
3. Identify signs and symptoms of a small bowel obstruction.
4. Differentiate a small bowel obstruction from a large bowel obstruction.
5. Discuss the diagnostic studies available for large bowel obstruction.
6. List the known risk factors for colon carcinoma.
7. Identify the common symptoms of carcinoma of the colon, rectum, and anus.
8. List the appropriate laboratory and radiologic studies for the diagnosis of carcinoma of the colon, rectum, and anus.
10. Discuss the surgical treatment of colon carcinoma, including anatomic relationships.
11. Discuss the indications for adjuvant medical treatment of carcinoma of the colon, rectum, and anus, i.e., chemotherapy and radiation therapy.
12. Discuss the role of CEA in the management of colorectal carcinoma.
13. Discuss the staging of colorectal carcinoma and their associated five-year survival.
14. Discuss the effect of obstruction or perforation on the prognosis of colorectal carcinoma.
15. Develop a cohesive post-operative care plan and follow-up surveillance plan in a patient with colorectal carcinoma.
16. Discuss the treatment of liver metastases.

Acute Abdomen

1. List the major categories of disease which cause pain in the abdomen.
2. Discuss the characteristics of the major types of acute abdominal pain especially their character, time course, and location.
3. Describe the clinical signs and significance of peritonitis.
4. Discuss common diagnostic tests (laboratory and radiological) used to help diagnose the acute abdomen. Include the following: WBC + differential, amylase, urinalysis, chest x-ray, plain abdominal film, abdominal series (plain abdominal film, lateral decubitus of the abdomen and chest x-ray), right upper quadrant ultrasound, computerized tomography (CT) of the abdomen.
5. Identify the common causes of severe abdominal pain that do not require surgery.
6. Discuss the differential diagnosis of a patient who presents with shock and acute abdomen.

Benign Perianal Disease

1. Discuss the anatomy of hemorrhoids.
2. Differentiate between internal and external hemorrhoids.
3. Describe the role of the anal sphincters in maintaining fecal continence.
4. State common causes of hemorrhoidal disease. Include the following in your discussion: heredity, diet, pregnancy, and occupation.
5. Outline the principles of managing patients with symptomatic external hemorrhoids.
6. Describe the symptoms and physical findings of patients with internal hemorrhoids.
7. Outline the principles of managing patients with symptomatic internal hemorrhoids.
8. Discuss the role of anal crypts in perianal infection.
9. Describe the various types of perianal infections, including perianal, perirectal, ischiorectal, and pelvirectal infection.
10. Outline the symptoms and physical findings of patients with perianal infections.
11. Outline the principles of managing patients with perianal infections and their sequelae (i.e. perianal fistulas).
12. Define fissure-in-ano. Describe the symptoms and physical findings of patients with fissure-in-ano and outline the principles of management.

Biliary Disease

1. List the common types of gallstones and describe the pathophysiology involved in their formation.
2. List several diseases known to predispose to gallstones.
3. Describe the signs and symptoms in a patient with biliary colic. Contrast these symptoms with those of acute cholecystitis.
4. List the tests commonly used to diagnose calculus biliary tract disease. Describe the indications for, limitations of, and potential complications of each.
5. Describe the likely natural history of a young patient with asymptomatic gallstones.
6. List the complications which can occur from biliary calculi.
7. Outline the medical and surgical management of a patient with acute cholecystitis.
8. Describe the symptoms and signs of choledocholithiasis; describe the management of this problem.
9. Contrast the liver enzyme abnormalities in obstructive jaundice and viral hepatitis.
10. List the most common bacteria which cause cholecystitis and cholangitis.

Breast Cancer 101

1. Differentiate between benign and malignant diseases of the breast; include their presentation, physical examination findings, and treatment.
2. Outline the diagnosis and management of a patient with nipple discharge.
3. List the major risk factors for breast cancer.
4. Describe the current recommendations for screening mammography.
5. Outline the fundamentals for diagnosing and managing a breast mass.
6. List the diagnostic modalities and their sequence in working up a patient with a breast mass.
7. Describe the categories of malignant breast disease and the differences in their management.
9. Describe the staging for breast cancer.
12. Outline the need for lymph node removal and its risks and benefits.
Breast Skills Workshop

Identify and describe the major types of breast lumps (fibroadenoma, fibrocystic disease, carcinoma, and cysts). Describe the typical age range for each.

1. Discuss the most anatomical location for breast cancer to occur.
2. List signs associated with malignant breast lesions.
3. Describe common risk factors associated with breast cancer.
4. Demonstrate the ability to perform a breast examination.
5. Demonstrate the ability to find a lump upon breast examination.
6. Demonstrate the ability to predict whether a breast mass is benign or malignant based upon physical examination findings and radiologic studies.
7. Accurately interpret a mammogram of a patient with a benign appearing breast mass.
8. Accurately interpret a mammogram of a patient with a carcinoma of the breast.
9. Given a case study discuss the most appropriate study for confirming diagnosis of a malignant versus benign breast lesion. Include the following studies in your discussion:
   a. Fine needle aspiration.
   b. CORE needle biopsy
   c. Surgery – excisional biopsy
   d. Mammography
   e. Mammatome
   f. Ultrasound

Diverticular Disease

1. Discuss the major etiologies of diverticular disease including age, diet, and vascular anatomy of the colon.
2. Describe the clinical signs and symptoms of diverticular disease. Differentiate between the signs and symptoms of diverticulitis and diverticulosis including signs of inflammation and bleeding.
3. Discuss the complications of diverticular disease including bleeding, obstruction, perforation, and fistula formation.
4. Describe the management of symptomatic but uncomplicated diverticulosis.

Esophageal Disease

1. Differentiate between structural esophageal disease vs functional esophageal disease.
2. Describe typical and atypical symptoms of esophageal disease.
3. List the functions of the Upper Esophageal Sphincter, Lower Esophageal Sphincter, and the Esophageal body.
4. Describe two important tests for diagnosing structural problems in the esophagus and two tests for identifying functional disease.
5. List the relative merits of medical and surgical treatment of common benign esophageal diseases such as GERD and achalasia
6. Discuss the diagnostic work-up and treatment plan for a patient with Barrett’s esophagus and gastroesophageal reflux disease.
7. How are esophageal tumors diagnosed and how are they staged?
8. Describe the surgical treatments for esophageal cancer
Fluid and Blood Resuscitation

1. Describe how the length and radius of an intravenous catheter influences delivery rate.
2. Discuss various intravenous placement sites and note the pros and cons of each of the following:
   a. Femoral
   b. Internal jugular
   c. Superior vena cava
   d. Intraosseous
3. Differentiate between the following fluids and their use in resuscitation.
   a. Ringer’s Lactate
   b. Normal Saline
   c. Hypertonic Saline
   d. Colloids
4. Discuss the indications for the following blood products. Include:
   a. Packed red blood cells
   b. Fresh frozen plasma
   c. Platelets
   d. Cryoprecipitate
   e. Factor VII

Hemodynamic Monitoring

1. Describe the purpose of the pulmonary artery catheter.
2. Describe how the pulmonary artery catheter is placed.
3. Discuss the purpose of each lumen of the pulmonary artery catheter.
4. Discuss potential complications of the pulmonary artery catheter.
5. Discuss the importance of the pulmonary artery wedge pressure (PAWP) and how it is measured.
6. Describe the difference between a cardiac output (CO) and cardiac index (CI) and discuss how they are measured.
7. Discuss the clinical maneuvers that can be done to improve a patient’s CO/CI.
8. Define oxygen delivery (DO$_2$), oxygen consumption (VO$_2$), oxygen extraction ratio (O$_2$ER), and systemic venous oxygen content (SVO$_2$).
9. List the interventions that may increase DO$_2$.
10. List two interventions that are commonly manipulated to increase the DO$_2$.
11. List the etiologies of shock and their effects on CI, SVR, PAWP, CVP, SVO$_2$, and HR.
12. Discuss common therapies used to decrease VO$_2$.

ICU Tutorial (No objectives available.)

Liver and Portal Hypertension

For Hypertension:
1. Define portal hypertension and classify its etiology.
2. Review the portal circulation and describe the changes that occur in portal hypertension.
3. Describe five clinical manifestations of portal hypertension.
4. List four complications associated with portal hypertension.
5. Outline the diagnostic methods appropriate for each complication of portal hypertension.
6. Outline the treatment methods available for variceal hemorrhage, including the principles for reduction of portal pressure.
7. Describe the medical and surgical treatment of a patient with ascites.
8. Describe the prognosis for patients with portal hypertension.

For Liver:
1. What is the initial diagnostic radiologic test for a suspected liver mass?
2. Compare the etiologies of the various types of cystic masses in the liver.
3. What are the preferred methods for treating different types of liver abscesses?
4. List a differential diagnosis for a solid liver mass.
5. What radiologic tests can be used to distinguish the type of solid mass?
6. Describe the treatment modalities available for hepatic neoplasms.

Mechanical Ventilation

1. Describe the goals of mechanical ventilation.
2. Differentiate between volume cycled and pressure cycled breaths.
3. Identify the parameters that need to be set on a ventilator.
4. Describe the various modes of ventilation and provide indications for each. Include the following:
   a. Assist Control – Pressure and Volume
   b. Synchronized Intermittent Mandatory Ventilation – Pressure and Volume
   c. Pressure Regulated Volume Control
   d. Airway Pressure Release Ventilation
   e. Continuous Positive Airway Pressure
5. Discuss the use of the following ventilator adjuncts:
   a. Positive End Expiratory Pressure (PEEP)
   b. Pressure Support
6. List benefits and potential complications of PEEP.
7. Discuss weaning criteria for mechanical ventilation.
8. Discuss the primary cause and prevention of oxygen toxicity.
9. Using a mechanical ventilator discuss which settings are used to change the paCO$_2$ and paO$_2$.

Pancreas

1. Discuss the diagnostic approach to patients with acute abdominal pain.
2. Create a differential diagnosis for acute epigastric abdominal pain.
3. List the five most common etiologies of acute pancreatitis.
4. Discuss the definition of acute versus chronic pancreatitis.
5. Discuss the prognostic criteria for acute pancreatitis.
6. List the most common complications of acute pancreatitis.
Skin & Soft Tissue

For Skin:
1. Describe several kinds of benign nevi and pigmented lesions.
2. Describe the gross morphologic and pathologic differences between benign and malignant nevi and discuss the approach to diagnosis.
3. List predisposing factors for melanoma.
4. Describe the major prognostic variables of melanoma; include a discussion of Clark’s level and Breslow depth.
5. Identify possible areas of metastasis of melanoma and outline steps to determine the extent of disease.
6. Outline local, regional, and systemic therapy for melanoma.
7. Distinguish gross pathologic differences between basal and squamous cell carcinomas and list predisposing causes and likely areas of clinical sites.
8. Distinguish the natural history, the curability, and the propensity to metastasize of basal and squamous cell carcinomas.
9. Describe medical and surgical therapies available for both types of skin cancer.

For Sarcoma:
1. Describe the clinical features of a sarcoma presenting in the head or neck, the trunk and the extremity.
2. Describe the techniques to diagnose and adequately stage a soft tissue tumor of the extremity.
3. Outline medical, surgical, and radiotherapy modalities which can be applied to soft tissue tumors.
4. List factors that are associated with a poorer prognosis for soft tissue sarcomas.
5. Identify four clinical features of nevi suggesting malignancy and a need for biopsy.
6. Identify non-pigmented ulcerative and non-ulcerative lesions requiring biopsy.

Stomach & Duodenum

For Gastric and Duodenal Ulcers:
1. Describe the pathogenesis of gastric and duodenal ulcer.
2. Discuss the role of helicobacter pylori in ulcer formation.
3. Identify the pathophysiology of ulcers and discuss the significance of their anatomic location (e.g., anterior duodenal – risk for perforation; posterior duodenal – risk for penetration and hemorrhage; pyloric channel – risk for obstruction; gastric – risk malignancy).
4. Identify the differences between gastric ulcers and duodenal ulcers.
5. List the main symptoms of peptic ulcer disease.
6. Describe the value of each of the following diagnostic studies in a patient with suspected peptic ulcer disease: upper gastrointestinal x-rays, endoscopy and biopsy, gastric analysis and serum gastrin.
7. Outline the medical treatment of peptic ulcer disease include the following:
   a. Antacids
   b. H2 blockers
   c. Proton pump inhibitors
   d. Surface coating agents
   e. Diet
f. Contraindicated medications (steroids, aspirin),
g. Treatment of heliobacter pylori
8. List the clinical features of the Zollinger-Ellison syndrome.
9. List the complications of peptic ulcer disease that require surgical treatment.
10. Describe the clinical presentation of each complication of peptic ulcer disease and outline diagnostic plans in appropriate sequence for each.
11. Define intractability of peptic ulcers.
12. Name the common and newer operations for duodenal and gastric ulcers and discuss the physiologic rational, risks, and effectiveness of each.
13. Discuss the side effects of the common operations for duodenal and gastric ulcers including a description of the dumping syndrome.

For Gastric Neoplasms:
1. Identify the premalignant conditions and epidemiology of gastric cancers.
2. Classify the common gastric neoplasms (adenocarcinoma, lymphoma, carcinoid, and leiomyosarcoma).
3. List diagnostic modalities for gastric neoplasms.
4. List the general principles of curative and palliative surgical procedures for gastric neoplasms and discuss the role of adjunctive/alternative treatment (chemotherapy and radiation therapy).

Surgical Infections

1. List the factors which contribute to infection following a surgical procedure.
2. List the types of surgical infections.
3. Describe the diagnostic features and indicated treatment for common skin infections.
4. Discuss four common hand infections and describe the treatment for each.
5. Describe the clinical features and treatment of anaerobic and synergistic gangrene.
6. List the causes of postoperative fever and discuss the diagnostic steps for evaluation.
7. Describe the indication and method for providing routine and reverse isolation.
8. Describe the diagnostic evaluation for intra abdominal abscess.
9. Identify the antibiotic of choice for acute cholecystitis, perforated sigmoid diverticulitis, empyema of the lung and a vascular graft infection.

Surgical Nutrition

1. Identify surgical patients who require nutritional support.
2. Calculate nutritional requirements using a variety of methods.
3. Determine what type (enteral vs. parenteral) of nutritional support is appropriate for surgical patients.
4. List advantages and disadvantages of enteral nutrition.
5. List advantages and disadvantages of parenteral nutrition.
6. Design and implement a plan to evaluate and follow a patient’s nutritional status.

Trauma Overview

1. Identify the criteria for a Trauma Team Activation (TTA) at LAC+USC Medical Center.
2. Identify the correct initial sequence of priorities to be followed in assessing the multiple-injured patient.
3. Outline the primary and secondary evaluation surveys used to assess the trauma patient.
4. Identify diagnostic and therapeutic actions for treating specific traumatic injuries as outlined in the Assessment and Management of Trauma (Red Book).
5. Discuss the protocols for treating trauma patients as outlined in the Assessment and Management of Trauma (Red Book).

Vascular - see Vascular Handbook in Surgery Clerkship Office

Wound Healing

1. Describe the sequential steps of wound healing and the approximate time course associated with each.
2. Describe the differences in healing by:
   • primary closure
   • delayed primary closure
   • secondary intention
3. Describe the appearance of a non-healing or inflamed wound and its management.
4. Describe clinical factors that may retard wound healing.
5. Describe the use of closed suction drainage of wounds.
6. List the causes of postoperative fever and discuss the diagnostic steps for evaluation.
7. Contrast “dehiscence” and “evisceration” and describe their clinical presentations.