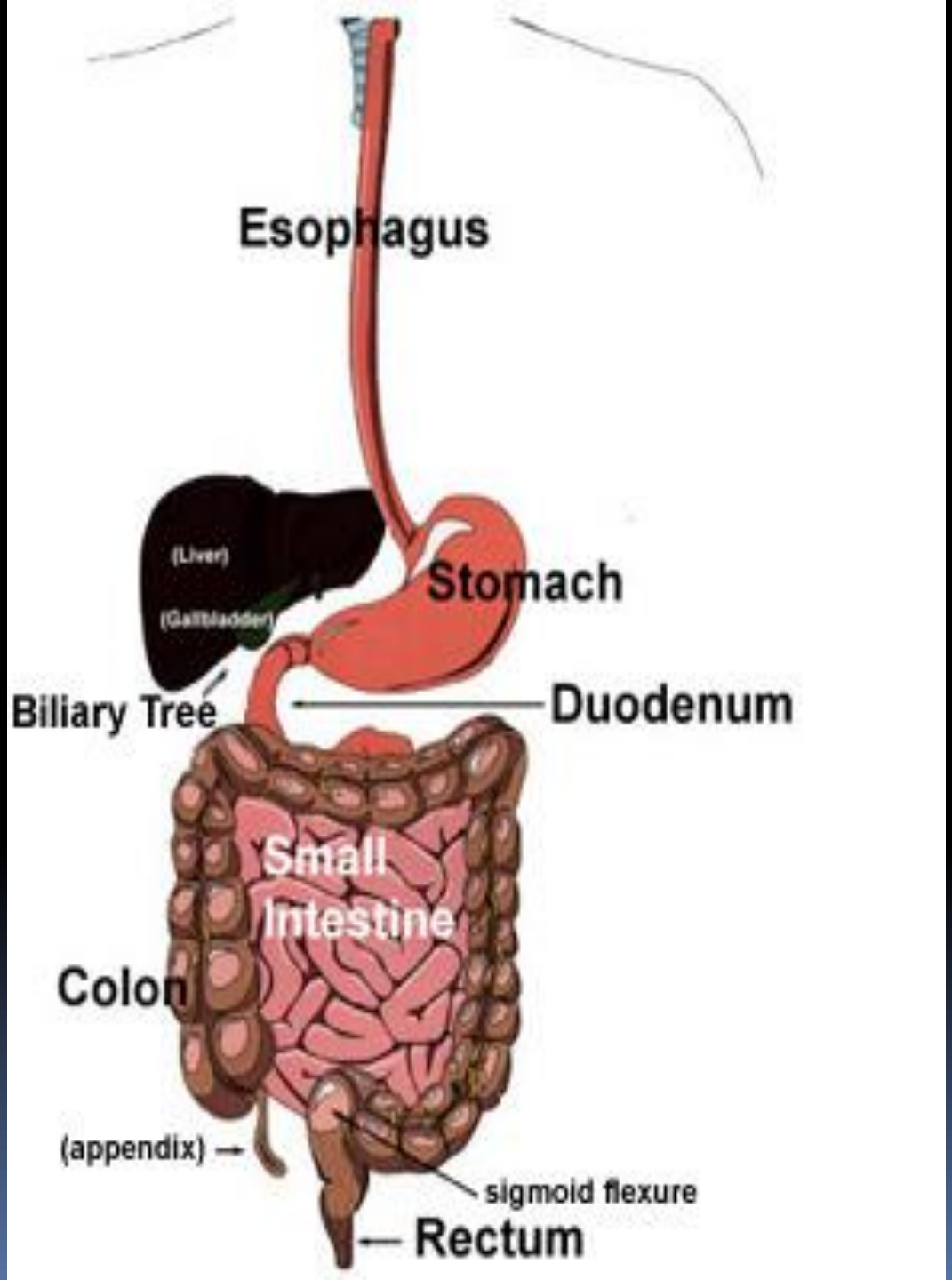
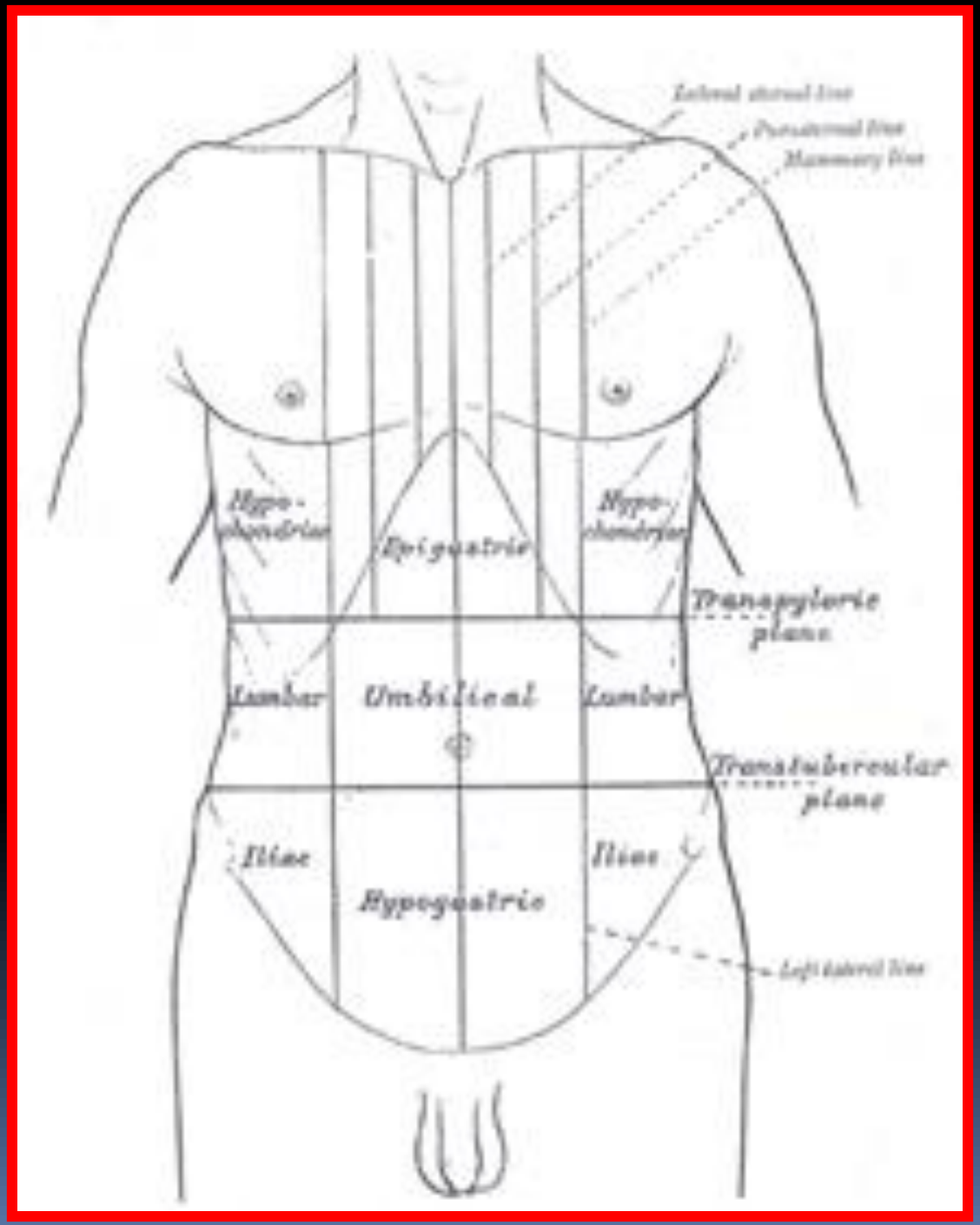
ABDOMINAL PAIN

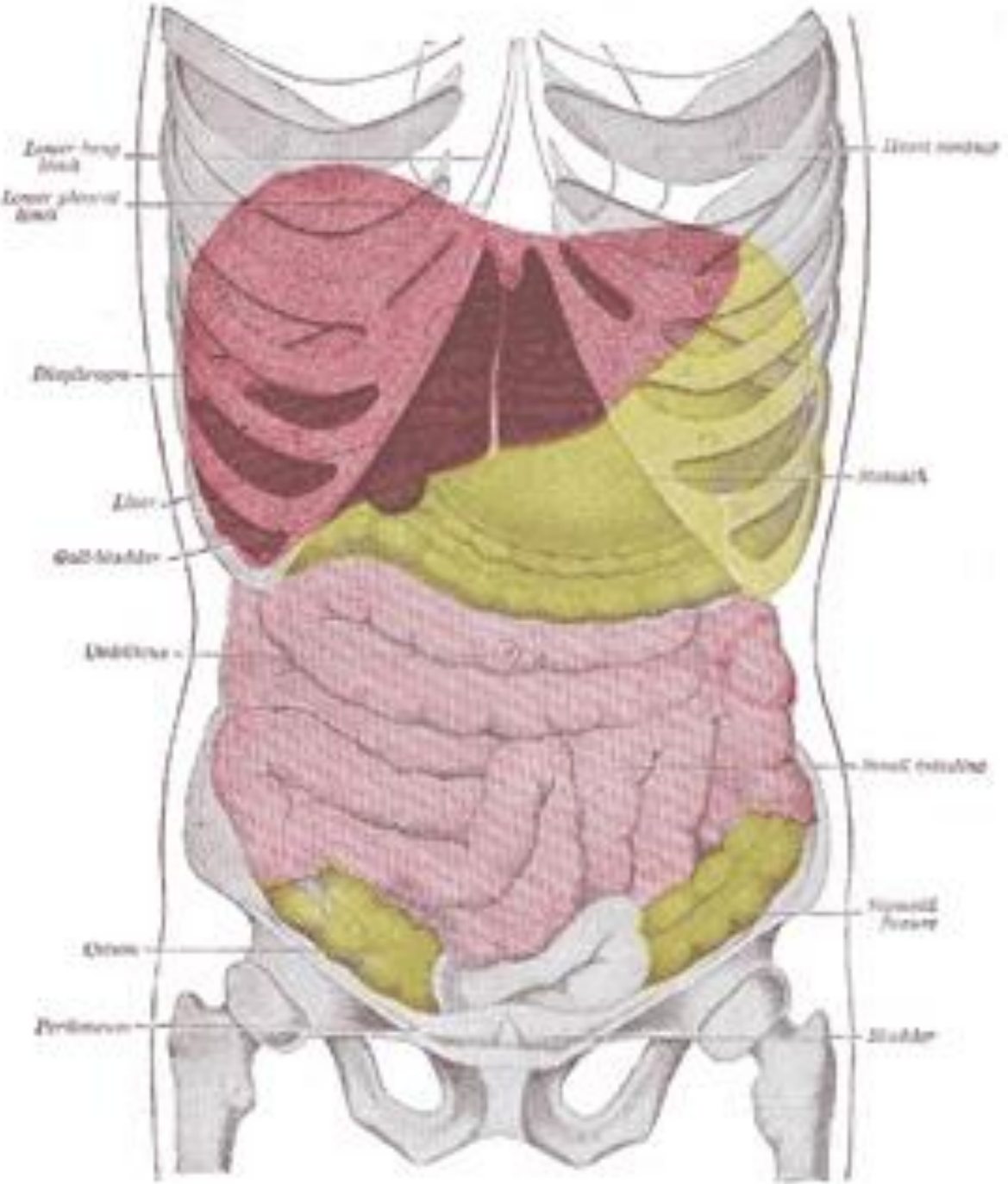
Dr. Sawsan Abd El-Moniem

Prof. Hepatology& Gastroenterology

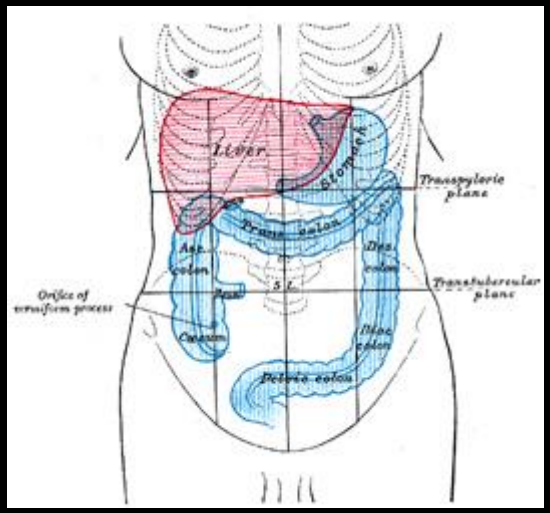
Mansoura University


Esophagus
(Liver)
(Gallbladder)
Stomach
Biliary Tree
Duodenum
Small Intestine
Colon
(appendix)
sigmoid flexure
Rectum

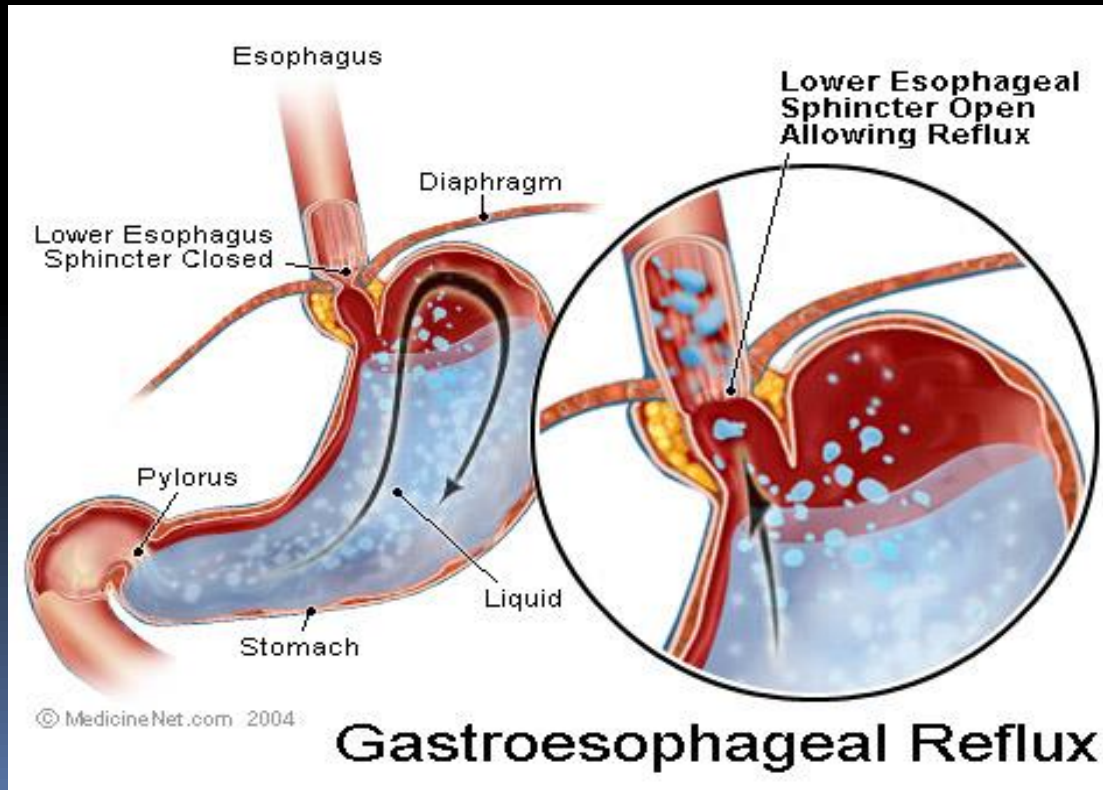

Hypo-
chondriac
Epigastric
Hypo-
chondriac
Transpyloric
plane
Lumbar
Umbilical
Lumbar
Transtubercular
plane
Iliac
Iliac
Hypogastric



Epigastric Pain

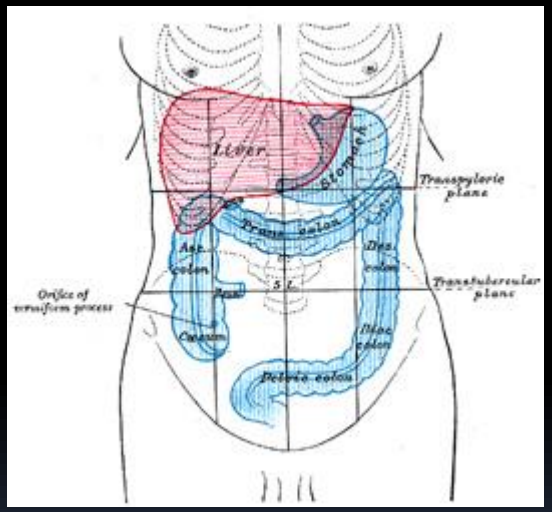


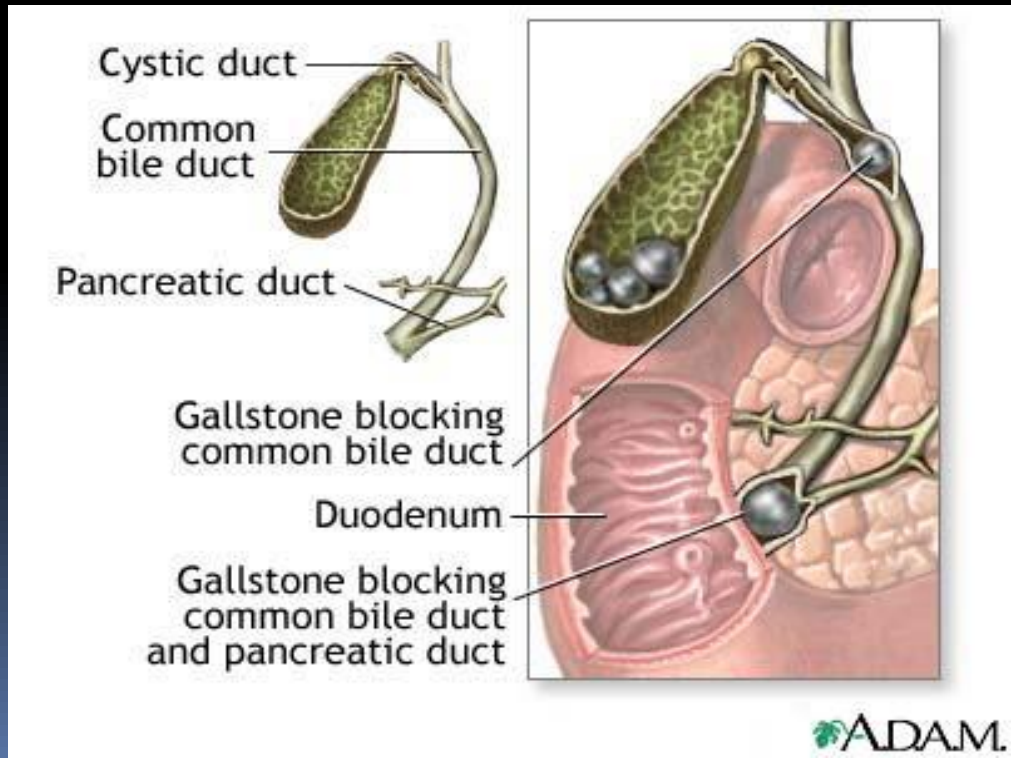
- Peptic Ulcer Disease
- GERD
- Pancreatic pain
- Gallbladder and common bile duct obstruction.
- Myocardial Infarction
- AAA- abdominal aortic aneurysm


Esophagus
Lower Esophageal Sphincter Open Allowing Reflux
Diaphragm
Lower Esophagus Sphincter Closed
Pylorus
Liquid
Stomach
© MedicineNet.com 2004
Gastroesophageal Reflux

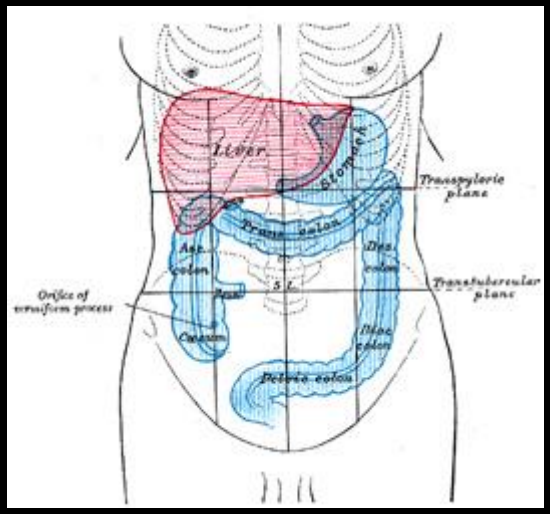
Right Upper Quadrant Pain

- Acute Cholecystitis and Biliary Colic
- Acute Hepatitis or Abscess
- Hepatomegaly due to CHF
- Perforated Duodenal Ulcer
- Herpes Zoster
- Myocardial Ischemia
- Right Lower Lobe Pneumonia




Cystic duct
Common bile duct
Pancreatic duct
Gallstone blocking common bile duct
Duodenum
Gallstone blocking common bile duct and pancreatic duct
A.D.A.M.

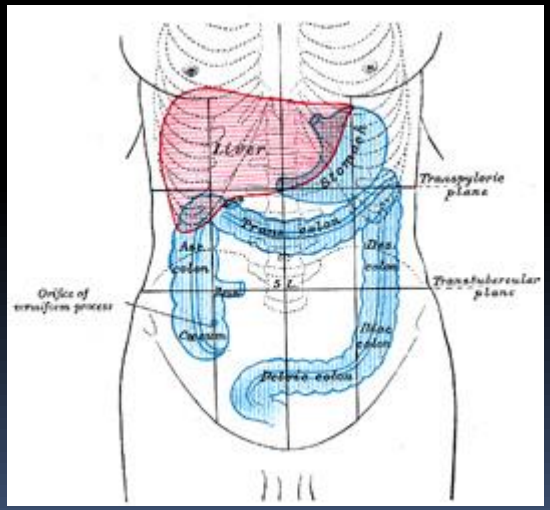
Left Upper Quadrant Pain



- Acute Pancreatitis
- Gastric ulcer
- Gastritis
- Splenic enlargement, rupture or infarction
- Myocardial ischemia
- Left lower lobe pneumonia

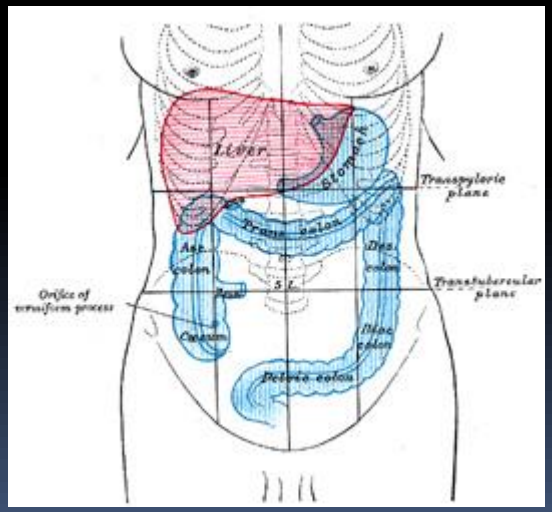
Right lower Quadrant Pain

- Appendicitis
- Regional Enteritis
- Small bowel obstruction
- Ruptured Ectopic Pregnancy
- Twisted Ovarian Cyst
- Ureteral Calculi
- Hernia



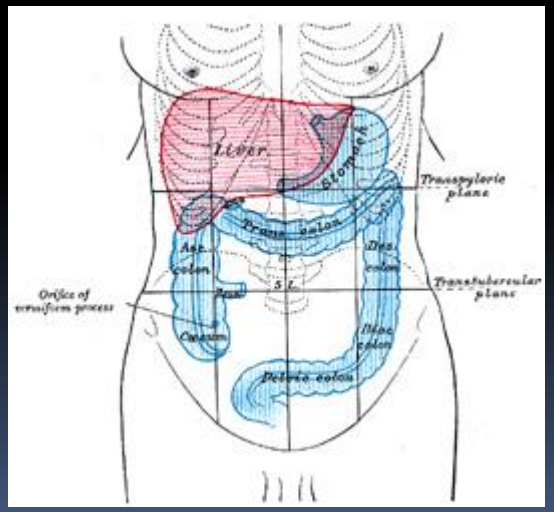
Left Lower Quadrant Pain

- Diverticulitis
- Ruptured Ectopic pregnancy
- Twisted Ovarian Cyst
- Ureteral Calculi
- Hernia
- Regional Enteritis



Periumbilical Pain

- Disease of transverse colon
- Gastroenteritis
- Small bowel pain
- Appendicitis
- Early bowel obstruction



Diffuse Pain

- Generalized peritonitis
- Acute Pancreatitis
- Sickle Cell Crisis
- Mesenteric Thrombosis
- Gastroenteritis
- Metabolic disturbances
- Dissecting or Rupturing Aneurysm
- Intestinal Obstruction
- Psychogenic illness

Referred Pain

- Pneumonia (lower lobes)
- Inferior myocardial infarction
- Pulmonary infarction

TYPES OF ABDOMINAL PAIN

- Visceral
  - originates in abdominal organs covered by peritoneum
- Colic
  - crampy pain
- Parietal
  - from irritation of parietal peritoneum
- Referred
  - produced by pathology in one location felt at another location

ORGANIC VERSUS FUNCTIONAL PAIN

HISTORY **ORGANIC** **FUNCTIONAL**

HISTORY	ORGANIC	FUNCTIONAL
Pain character	Acute, persistent pain increasing in intensity	Less likely to change
Pain localization	Sharply localized	Various locations
Pain in relation to sleep	Awakens at night	No affect
Pain in relation to umbilicus	Further away	At umbilicus
Associated symptoms	Fever, anorexia, vomiting, wt loss, anemia, elevated ESR	Headache, dizziness, multiple system com-plaints
Psychological stress	None reported	Present

WORK-UP OF ABDOMINAL PAIN

HISTORY

- Onset
- Course
- Duration
- Character of Pain
- Intensity
- Frequency
- Location - Does it go anywhere (referred)?
- Aggravating and relieving factors
- Response to treatment.
- Complications

WORK-UP

PHYSICAL EXAMINATION

- Inspection
- Auscultation
- Percussion
- Palpation
- Guarding - rebound tenderness
- Rectal exam
- Pelvic exam

WORK-UP

LABORATORY TESTS

- CBC;ESR
- Stool….
- Additional depending on rule outs
  - amylase,
  - lipase,
  - LFT's

WORK-UP

DIAGNOSTIC STUDIES

- Ultrasound
- CT scanning
- Endoscopy UGI
- Sigmoidoscopy, colonoscopy

Common Acute Pain Syndromes

- Appendicitis
- Acute diverticulitis
- Cholecystitis
- Pancreatitis
- Perforation of an ulcer
- Intestinal obstruction
- Ruptured AAA
- Pelvic disorders

APPENDICITIS

- Diagnosis based on history and physical
- Classic sequence of symptoms
  - abdominal pain (begins epigastrium or periumbilical area,)
  - anorexia, nausea or vomiting
  - followed by pain over appendix and
  - low grade fever

DIAGNOSIS

- Physical examination
  - low grade fever
  - McBurney's point
  - rebound, guarding, +psoas sign
- CBC, HCG
  - WBC range from 10,000-16,000

SURGERY

DIVERTICULITIS

- Results from stagnation of fecal material in single diverticulum leading to pressure necrosis of mucosa and inflammation
- Clinical presentation
  - most pts have h/o diverticula
  - mild to moderate, colicky to steady, aching abdominal pain - usually LLQ
  - may have fever and leukocytosis

PHYSICAL EXAMINATION

- With obstruction bowel sounds hyperactive
- Tenderness over affected section of bowel

DIAGNOSIS

- Often made on clinical grounds
- CBC - ± leukocytosis

MANAGEMENT

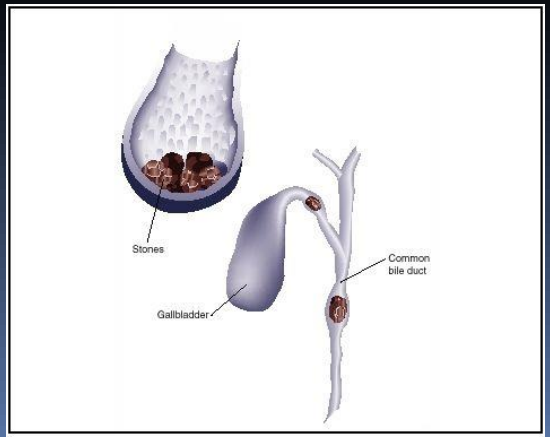
- Spontaneous resolution common with low-grade fever, mild leukocytosis, and minimal abdominal pain

- Treat at home with limited physical activity, reducing fluid intake, and oral antibiotics (bactrim DS bid or cipro 500mg bid & flagyl 500 mg tid for 7-14 days)

- Patients who present acutely ill with possible signs of systemic peritonititis, sepsis, and hypovolemia need admission

CHOLECYSTITIS

- Results from obstruction of cystic or common bile duct by large gallstones
- →Colicky pain with progression to constant pain in RUQ that may radiate to R scapula
- Physical findings
  - tender to palpation or percussion RUQ
  - may have palpable GB

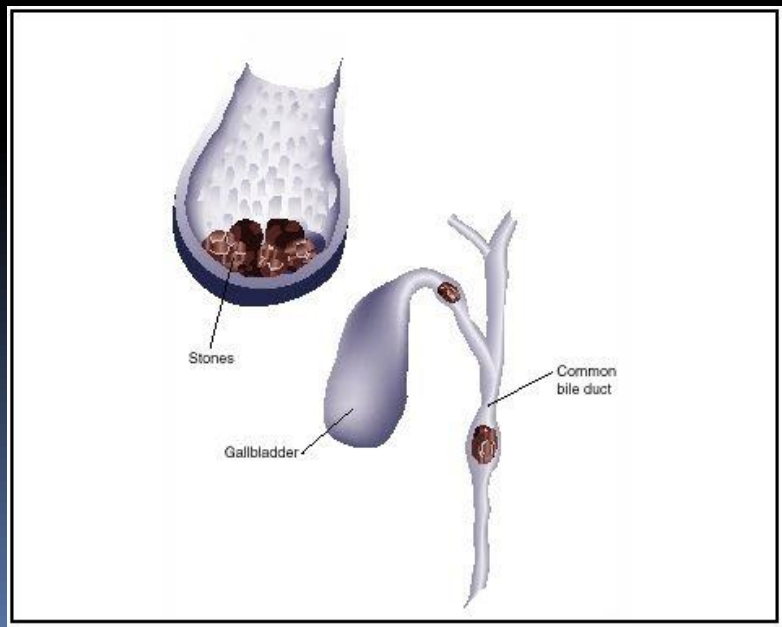


DIAGNOSIS

- CBC, LFTs (bilirubin, alkaline phosphatase), serum pancreatic enzymes
- Plain abdominal films demonstrate biliary air hepatomegaly, and maybe gallstones
- Ultrasound - considered accurate about 95%

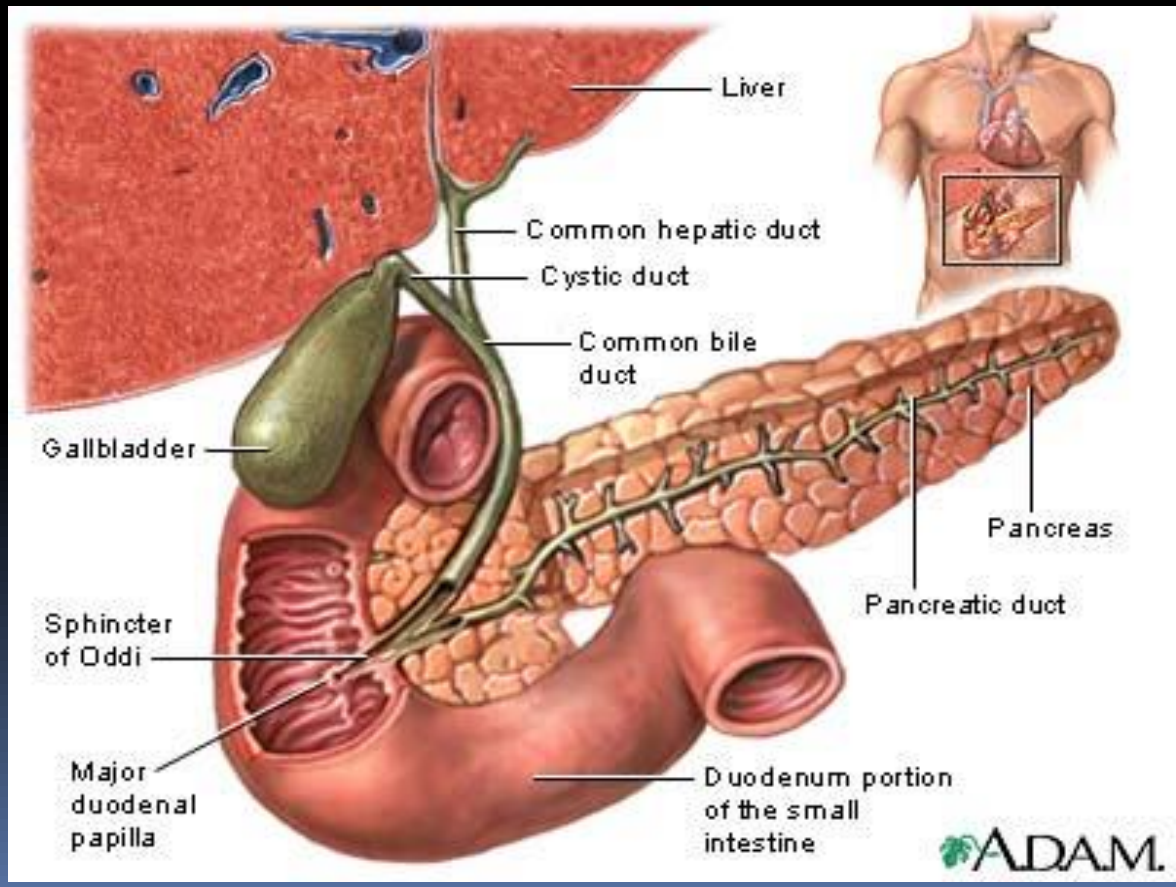
MANAGEMENT

- Admission



PANCREATITIS

- History of cholelithiasis or ETOH abuse
- Pain steady and boring, unrelieved by position change - LUQ with radiation to back - nausea and vomiting,
- Physical findings;
  - acutely ill with abdominal distention, ↓ BS
  - diffuse rebound
  - upper abd may show muscle rigidity


Liver
Common hepatic duct
Cystic duct
Common bile duct
Gallbladder
Pancreas
Pancreatic duct
Sphincter of Oddi
Major duodenal papilla
Duodenum portion of the small intestine
A.D.A.M.

- Diagnostic studies
  - CBC
  - Ultrasound
  - Serum amylase and lipase
    - amylase rises 2-12 hours after onset and returns to normal in 2-3 days
    - lipase is elevated several days after attack

PEPTIC ULCER PERFORATION

- Life-threatening complication of peptic ulcer disease - more common with duodenal than gastric
- Predisposing factors
  - *Helicobacter pylori* infections
  - NSAIDs
  - hypersecretory states

SMALL BOWEL OBSTRUCTION

- Distention →↓ absorption and↑ secretions →further distention and fluid and electrolyte imbalance
- Number of causes
- Sudden onset of crampy pain usually in umbilical area of epigastrium - vomiting occurs early with small bowel and late with large bowel

- Physical findings
  - hyperactive, high-pitched BS
  - fecal mass may be palpable
  - abdominal distention
  - empty rectum on digital exam
- Diagnosis
  - CBC
  - serum amylase
  - stool for occult blood
  - abdominal X-ray
- Management

RUPTURED AORTIC ANEURYSM

- AAA is abnormal dilation of abdominal aorta forming aneurysm that may rupture
- More frequent in elderly
- Sudden onset of pain may be felt in chest or abdomen and may radiate to legs and back

- Physical findings
  - appears shocky
  - VS reflect impending shock
  - deficit or difference in femoral pulses
- Diagnosis
  - CT or MRI
  - ECG, cardiac enzymes

  SURGICAL EMERGENCY

PELVIC PAIN

- Ectopic pregnancy
- UTI
- Ovarian cysts

Q-Medical causes of acute Abdomen:

Q-Non Surgical causes of acute abdomen.

- * Endocrinal causes.
- * Systemic diseases.
- * Metabolic diseases.
- * GIT disorders.
- * Referred pain.
- * CNS causes.

Endocrinal Causes

- **1-** Diabetic Ketoacidosis.
- 2- Addisonian Crises.
- 3- Hyperthyroidism.
- 4- Hyperparathyroidism →due to ↑Calcium or Pancreatitis.

Systemic Diseases

1- Collagen Vascular dis.

2- Blood dis (Henoch`s Purpura).

3- Haemolytic dis (Sickle cell dis)

4-Thrombotic state (Acute Leuk).

5- Renal dis→Inf.

6- Familial Periodic Fever.

7- Abdominal Migraine.

Metabolic Diseases

- 1-Heavy metal poisoning(Lead).
- 2- Narcotic Withdrawal.
- 3- Familial Hyperlipoproteinemia →Pancreatitis.
- 4-Food Poisoning.
- 5- Acute Intermittent Porphyria.

GIT Disorders

- 1-Acute Gastritis&PU.
- 2- Acute Cholecystitis.
- 3- Biliary Colic.
- 4- Intestinal Colic.
- 5- Acute Pancreatitis.

- 6- AcuteViral Hepatitis.
- 7- Diverticulitis.
- 8-Peritonitis.
- 9-Enteritis→Typhoid,Staph,Closteridium.
- 10-Ulcerative Colitis.

Referred Pain

*Chest→Pleuritis;Pneumonia.

*Heart→ Pericarditis, MI.

*Abdomen→Dissecting Aortic Aneurysm.

CNS

- (1) Epilepsy.
- (2) Migraine.

A Patient with acute Abdominal Pain

- **History:-**
- Severe → MI .

(Sec) Perforated PU.

Rupture Aneurysm.

Renal, Biliary Colic.

*Rapid & severe over minutes:-

-Acute pancreatitis.

- Complete Int. Obst.

- Mesenteric Thrombus.

*Gradual & Steady over hours:-

-Acute Cholecystitis.

-Acute Appendicitis.

- Diverticulitis.

*Pain Characters

1- Colicky→Hollow organ.

2- Throbbing→Pus under tension.

3- Sawing→ Rh.Pain.

4- Burning→PU,GERD.

5- Dull aching→Solid organ Swelling.

6-Stitching→Hepatic Congestion.

7-Heaviness,Dragging → Splenomegaly.

8- Constricting,Tightness, Compressing → IHD.

*Intermittent & Colicky pain:-

(Over Hours)

- Early Subacute Pancreatitis.
- Mechanical Small bowel Obst.

CHRONIC PAIN SYNDROMES

- Irritable bowel syndrome
- Chronic pancreatitis
- Diverticulosis
- Gastroesophageal reflux disease (GERD)
- Inflammatory bowel disease
- Duodenal ulcer
- Gastric ulcer