Acute pancreatitis

- Range from self-limiting to severe MSOF (10%)
- Dx: clinical signs, labs, & imaging (US/dynamic CT)
- Predictive factors: Ranson’s, ISS, APACHE II, etc.
- Post-op pancreatitis with high M&M
- TPN essential to improve N\textsubscript{2} balance and outcome
- Macro findings: edema, phlegmon, sterile necrosis/infected necrosis, & abscess
Etiology: acute pancreatitis

- Gallstones
- Ethanol abuse
- Pancreas divisum
- Autoimmune disease
- Hyperlipidemia (I & V)
- Familial pancreatitis
- Traumatic
- Hyperparathyroidism
- Ischemic (CABG)
- Renal failure
- Postoperative
- Scorpion sting
- Viral infections
- Drugs (anti-virals)

Acute pancreatitis severity

Ranson’s criteria

At admission/diagnosis
- Age > 55 years
- WBC > 16,000 cells/mm³
- FBS > 200 mg/dl
- LDH > 350 IU/l
- SGOT > 250 IU/l

During initial 48 hours
- Hct drop > 10%
- BUN rise > 5 mg/dl
- Serum calcium < 8 mg/dl
- PaO₂ < 60 mm Hg
- Base deficit > 4 mEq/l
- Fluid sequestration > 600 ml

Ranson’s criteria - Mortality

- < 3 signs predicts a mortality of 1 - 2%
- 3 - 4 signs predict a mortality of 15%
- 5 - 6 signs predict a mortality of 40%
- 7 or more signs nearly 100%
Acute pancreatitis
Surgical indications

- Exploration to R/O acute abdomen - rare
- Pancreatic abscess or infected pancreatic necrosis
  - Determined by CT scanning and C&S aspiration
  - Assess the degree of pancreatic avascularity
  - Pancreatic debridement and drainage needed
- Clinical deterioration in acute pancreatitis (?)
- Complications: Colon ischemia
- Biliary pancreatitis - Cholecystectomy +/- CBDE
Pathogens & pancreatic infection

- Klebsiella
- E. coli
- Proteus
- Enterobacter
- Streptococcus
- Candida
- Enterococcus
- Serratia
- Pseudomonas
- Anaerobes
- Staphylococcus

Chronic pancreatitis

Complications

- Incapacitating pain
- Pancreatic, biliary, & GI obstruction
- Pseudocyst formation
- Pancreatic fistula & ascites
- Splenic vein thrombosis
- Pancreatico-enteric fistula
- Differentiation from carcinoma
Chronic pancreatitis and pain

- Chronic pancreatic duct obstruction
- Stimulation of afferent sympathetic nerves
- Medical treatment options are limited
  - Analgesics and narcotics
  - Oral pancreatic enzyme replacement
  - Eliminate EtOH consumption
  - Somatostatin not reliably effective
  - Celiac plexus nerve block
- Surgical intervention
“Chain of Lakes” ERCP

Chronic pancreatitis with biliary obstruction
Pancreatic pseudocyst

- Localized collection of pancreatic juice enclosed by a wall of fibrous or granulation tissue
- Persistent or recurrent abdominal pain after pancreatitis, jaundice, gastric outlet obstruction, etc.
- Detection and diagnosis by US or dynamic CT
Origin of pancreatic pseudocysts

Pancreatic pseudocysts

- 10 - 20% of AP patients will develop a pseudocyst
- Spontaneous resolution: acute > chronic
- 6-12 week waiting period (resolve acute process)
- Observation is safe for small asymptomatic cysts < 4-5 cm
- Role of ERCP in management decisions to determine status of duct/connection to cyst (with no pancreatic duct connection)
- Endoscopic drainage
- Percutaneous CT-guided aspiration and drainage