Acute Pancreatitis

Intro:
- Inflammatory condition of pancreas
- Pathogenesis is not fully understood
- Incidence ➔ 4-24/100K
- Overall mortality ➔ approx. 10% (see prognostic criteria)

Etiology:
- Gall stones 35-40%
  - Mechanism ➔ reflux of bile into pancreatic duct due to transient obstruction OR obstruction with resulting edema
  - Risk of developing pancreatitis is greater in men; however more women develop since GS occur more frequently in women
  - Stone diameter may play a role; more likely to develop pancreatitis if stone <5mm
  - 30-50% develop recurrence; average of 108 days after d/c
- EtOH 30-40%
  - May act by increasing enzyme synthesis in the pancreas
  - 10% chronic alcoholics will develop
  - Usually develops after 4-7 yrs of drinking; but may occur 1-3 days after binging
- Idiopathic 15-30%
- Obstructive (tumors, pancreas divisum, stenosis of papilla)
- Metabolic (hypertriglyceridemia) 1-4%
  - TG >1000mg/dL
  - Diabetic or alcoholic (inc TG in dose dependent manner in relation to EtOh)
- Drugs (furosemide, thiazides, sulfa, metronidazole, valproic acid, HIV meds, estrogen, azithioprine, etc) 0.3-2%
- Infection (coxsackievirus, mumps, legionella, mycoplasma, EBV, CMV, HIV, varicella, hepatitis, parasites)
- Trauma (blunt, post procedure)
- Genetic
- Scorpion sting

Clinical Manifestations:
- Upper abdominal pain; steady; rapid onset; band-like radiation to back; may be relieved by sitting forward
- Painless disease less common (5-10%) in dialysis pts and Legionaire’s
- N/V in up to 90%
- Fever, tachycardia, restlessness, dehydration

PE:
- Abdominal TTP; guarding; may have decreased BS; palpable mass (tumor or pseudocyst)
- Cullen’s sign ➔ ecchymosis in periumbilical area (1%; intraabdominal hemorrhage, assoc with necrosis)
- Grey-Turner’s sign ➔ ecchymotic discoloration in the flanks
- Shock

Diagnostic Studies:
- Labs
  - ↑ amylase, lipase, WBC, BUN/Cr, glucose, LFTs
  - ↓ Hct, Ca
  - Amylase inc in 6-12 hrs of onset; peaks at 12-72 hrs; normal within 7d (Sens 75-92%; Spec 20-60%)
  - Lipase inc in 4-8hrs of onset; peaks at 24hrs; normal within 8-14d (Sens 50-99%; Spec 86-100%)
  - Inc. in ALT may be more suggestive of gallstone pancreatitis, if >3x normal range (Sens 48%; Spec 96%)
  - Inc. in ratio lipase:amylase of >2 more suggestive of alcoholic pancreatitis (Sens 91%; Spec 76%)
- Radiologic Studies
  - Plain Xrays ➔ possibly calcifications; “sentinel loop” is a gas filled duodenum secondary to obstruction
US → diffusely enlarged, hypoechoic pancreas; Sens 62-95%; up to 1/3, pancreas not seen secondary to bowel gas
CT scan → most important imaging for diagnosis and identifying complications of pancreatitis; with IV/PO contrast (unless contraindicated)
MRI/MRCP (Magnetic Resonance Cholangiopancreatography) → better sensitivity compared to CT; lack of nephrotoxic contrast; delineates pancreatic and bile ducts as well as fluid collections better; comparable to ERCP for detection of choledocholithiasis

**Prognostic Criteria:** (see handout)
- Ranson’s Criteria
- Glasgow System
- CT Severity Index
- APACHE

**Treatment:**
- IVF
- NPO
- NGT only if protracted N/V
- Anibiotics → only if hemorrhagic/necrotic/abscess
  - Imipenem 500mg IV q6
  - Pip/tazo 4.5g IV q6
  - Levofloxacin 750mg po qd + metronidazole 500mg po q8 x 2wks
- Pain Mgmt
  - Morphine vs meperidine vs other narcotics
  - ?spasm of Sphincter of Oddi
  - ? rise in biliary and pancreatic pressures
- ERCP (endoscopic Retrograde Cholangiopancreatography)
  - If failing to improve within 48 hrs (soft guideline)
  - Not indicated for all pts with gallstone pancreatitis; but is beneficial in pts with obstructive jaundice, dilated CBD and/or biliary sepsis (NEJM 1997; 336: 237-42)
    - stone removal
    - sphincterotomy
    - tissue sampling
diagnose ampullary CA
    - treat postop biliary leak/strictures
drain pseudocysts
    - palliation of biliary obstruction when surgery is not elected

**Complications:**
- Secondary pancreatic infection is most common cause of death
  - Accounts for 70-80% of deaths
  - Usually with 2 weeks of onset
- Organ failure (cardiac, pulmonary, renal)
- Pseudocysts (8-20%)
  - Suggested by persistent pain, and elevated amylase/lipase
  - If persist >6wks, consider percutaneous drainage
- Infection/abscess (1-5%)
  - Antiobiotics + drainage or debridement
- Necrosis
  - Antibiotics +/- surgery if pt unstable

Sources: Up To Date (2005); Pocket Medicine (2000); AFP (7/1/2000)
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2006