Pancreatitis
Objectives

- Define acute and chronic pancreatitis
- Etiology
- Signs and symptoms
- Diagnosis
- Treatments
- Complications
Acute Pancreatitis

- Diffuse inflammation
- Enzymatic destruction
- Interstitial edema and inflammation
- Hemorrhage and necrosis
CT-scan of acute pancreatitis
Etiology Acute Pancreatitis

- Alcohol
- Biliary tract disease
- Hyperlipidemia
- Hereditary
- Hypercalcemia
- Trauma
- Ischemia, infections, venom
Etiology

Azathioprine, estrogens, isoniazid, metronidazole, tetracycline, valproic acid, trimethoprim-sulfamethoxazole
Clinical Presentation

- Noncrampy, epigastric abdominal pain
- “knifing” or “boring through” to the back
- Nausea and vomiting
- Tachycardia, tachypnea, hypotension, hyperthermia
- Voluntary and involuntary guarding
What is this? Why?
Cullen’s Sign

- Hemorrhagic pancreatitis
- Blood dissects up the falciform ligament
What is this? Why?
Grey Turner’s Sign

- Hemorrhagic pancreatitis
- Blood dissect into the posterior retroperitoneal soft tissue in the flank
Fox’s Sign

- Rare finding
- Bluish discoloration below the inguinal ligament or at the base of the penis.
Tests

- Labs: amylase and lipase
- CT scan
- CXR: elevation of left diaphragm
- AXR: sentinal loop sign
  - colon cutoff sign
Early Prognostic Signs

- Ranson’s prognostic signs of pancreatitis
- Criteria for acute gallstone pancreatitis
Ranson’s

At admission
: Age >55y
WBC >16,000/mm3
Blood glucose >200 mg/dl
LDH >350 IU/L
AST >250 U/dl
Ranson’s

Initial 48 hours
Hct fall >10%
BUN elevation > 5 mg/dl
Serum Calcium < 8 mg/dl
Pao2 < 60 mmHg
Base deficit > 4 mEq/l
Fluid sequestration > 6 L
Acute Gallstone Pancreatitis

At admission:
Age > 70y
WBC > 18,000
Blood glucose > 220
LDH > 400
AST > 250
Acute Gallstone Pancreatitis

Initial 48 h
HCT fall > 10%
BUN elevation > 2
Calcium < 8
Base deficit > 5
Fluid sequestration > 4 L
Prognosis

- Mortality zero; less than 2 criteria
- Mortality 10% to 20%; 3 to 5 criteria
- Mortality > 50%; more than 7 criteria
Treatment Mild Pancreatitis

- Supportive
- Restriction of oral intake
- NGT
- H2 blockers
- Pain control
When Resume Diet?

- After ABD pain has decreased
- Amylase returns to normal
- Diet: low-fat and low-protein
Severe Pancreatitis

- NPO
- Supportive care in the ICU
- Aggressive fluid resus.
- TPN
Complications

- Paralytic ileus
- Hyperglycemia
- Hypocalcemia
- Renal failure
- Hemorrhage-erosion into a major vessel
Complications

- Necrosis
- Infected necrosis
- Abscess
- Pseudocyst
- Thrombosis of splenic vein - sinistral portal hypertension and gastric varices
Acute Necrotizing Pancreatitis

- Cullen's sign (periumbilical hemorrhage)
- Gray-Turner's sign (flank hemorrhage)
- Resected specimen showing the necrotic pancreas
- Infected peripancreatic necrotic tissues removed during drainage surgery
- Open drainage and respiratory control
  The patient survived!

chest X-P showing ARDS
abdominal X-P with colon "cut-off"
Chronic Pancreatitis

- Chronic inflammatory condition
- Fibrosis, duct ectasis and acinar atrophy
- Irreversible destruction of tissue
Etiology of Chronic Pancreatitis

- Alcohol 70%
- Idiopathic
- Hereditary hyperparathyroidism
- Hypertriglyceridemia
- Autoimmune
- Obstruction, trauma
- Pancreas divisum
Presentation

- Chronic pain - epigastric radiates to back
- Anorexia
- Weight loss
- IDDM
- Steatorrhea
Diagnosis

- Pancreatic calcifications
- Chain of lakes
Treatment

- Control pain
- Small-volume, frequent, low-fat, high-protein, high-carbohydrate meals.
- Octreotide
- Lipase and trypsin
- ERCP with stents, sphincterotomy, stone extraction
Treatment Operative

- Sphincteroplasty
- Peustow- side-to-side longitudinal pancreasticojejunostomy
- Celiac plexus neurolysis with alcohol injection
- Thoracoscopic splanchnicectomy