Update on the Diagnosis and Management of Chronic Pancreatitis

- Have No Conflict of Interest to Disclose.
Chronic pancreatitis is a continuing inflammatory disease of the pancreas characterized by irreversible morphologic changes that typically cause pain and/or permanent loss of function.
Histological Features in CP

Normal Pancreas  Mild- Moderate  Severe CP
Clinical features of CP

Chronic Pancreatitis

- Pain
- Calcification
- Pancreatic insufficiency
Clinical Features

Chronic Pancreatitis

Course

% patients

Presentation 15 years

- Pain
- Calcification
- Malabsorption
- Diabetes

Tsiotos, 2002
Lankisch PG, Pancreatology 2001; 1:3
Incidence and Prevalence

• Difficult to specify
  – Variable diagnostic criteria

• Incidence
  – **Worldwide**: 1.6 to 23 per 100,000 people
  – **US**: 5 to 12 per 100,000
Etiologies of CP (current)

- Idiopathic (42%)
- Genetic (24%)
- Alcohol + genetic (3%)
- CFTR (14%)
- CFTR + SPINK1 (3%)
- SPINK1 (4%)
- Hyperlipidemia, Autoimmune, Other (4%)
- PRSS1 (3%)
- Gallstone / severe AP (3%)
- Obstructive (9%)
- Very heavy drinking (15%)

Diagnosis of CP

• Requires demonstration of irreversible damage
Diagnosis of CP

- Gold standard is histology:
  - Difficult to obtain sample, not routine

- Imaging Tests (Morphologic assessment)

- Tests of Pancreatic function:
  - Hormonal stimulation (secretin): Peak bicarbonate < 80 meq/L
  - Serum trypsinogen (trypsin) → less than 20 ng/ml
  - Stool Elastase: < 200 ug/g stool is abnormal
Imaging for CP

- Plain Film: diffuse pancreatic calcifications can be seen in advanced disease.

- Abdominal Ultrasound: Limited usefulness in CP.

- CT, MRI/MRCP: Different reports of diagnostic accuracy. ?? Issue of “minimal change CP”

- EUS
Endoscopic Ultrasound

• Highly detailed examination of pancreatic parenchyma and the pancreatic duct, overcomes some of the limitation of transabdominal U/S.

• Diagnosis of CP on EUS is based on certain sonographic features.

• EUS is highly accurate. EUS score of > 5 criteria is highly specific for chronic pancreatitis, where a near normal score (0-2) essentially rules out chronic pancreatitis.
Management of CP

• Medical Management
  – Pancreatic enzyme replacement:
  – Pain control
    • Analgesics
    • Neuro-modulating agents
  – Appropriate Nutrition

• Endoscopic Management:
  – PD stricture/stone management
  – Celiac plexus block

• Surgical Management
Surgical Management of Chronic Pancreatitis

Drainage Procedures

Resection Therapy
Drainage procedures:
Puestow Procedure
Drainage procedures:
Frey Procedure
Drainage Procedures: Beger Procedure
Resection Procedures:

Central Pancreatectomy  Whipple Procedure
Puestow Procedure
Resection Procedures:
Total Pancreatectomy Islet Auto Transplant
Total Pancreatectomy with Islet Autotransplant (TPIAT) for CP

- Indication for TPIAT same as for TP – debilitating pain/daily narcotics poor QOL
- TPIAT done to prevent DM OR minimize labile DM associated with TP
- Pancreas harvested, digested, and islets isolated and infused into portal vein
  - No immunosuppression required
TPIAT: Post-Operative Course

- Islet graft takes several weeks to re-vascularize
  - Graft likely not functioning fully during this time
  - All patients discharged on SQ insulin
    - Supplement and protect islet graft

- Insulin weaned as able as graft function improves
TPIAT Outcomes: Graft Function

Percentage Graft Function

- Insulin Independent
- Partial Function
- Insulin Dependent

6 Month 12 Month 24 Month 36 Month
Thank You

(402) 559-5008 or Online at: www.nebraskamed.com/pancreasclinic