Pancreas Tumors

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Exocrine Tumors

• 95% of pancreas tumors
• Vast majority are adenocarcinoma

Endocrine Tumors

• Aka neuroendocrine or islet cell tumors
• 5% of pancreas tumors
• Can produce hormones like insulin or glucagon or somatostatin
Epidemiology of Exocrine pancreas cancer

- 45,000 new cases a year
- Reality: almost all will die of the disease
- 4th leading cause of cancer-related death among both men and women in US
- Very rare before age 45
- Male to Female ratio 1.3:1
- Incidence of 15 per 100,000 among black males
Risk factors

• Hereditary – about 10% of cases
  - familial pancreas cancer
  - hereditary pancreatitis
  - chronic pancreatitis
  - Germline mutations - BRCA1/BRCA2
  - Peutz-Jeghers syndrome
  - ? Lynch syndrome and FAP
• Environmental
  - smoking (estimated to cause 25% of cases)
  - obesity and physical inactivity
Screening

• Dismal outcomes in patients who are diagnosed when disease presents symptomatically
• Emphasis on prevention/early detection in high risk patients (hereditary pancreatitis, PJS, known germline mutations)
• When - ? start at age 45
• How often - ? every 1-3 yrs
• With what ? MRI, CT, EUS
Clinical presentation

- Fatigue – 85%
- Weight loss – 85%
- Abdominal pain – 75%
- Jaundice – 55% (location related)
- Back pain - 50% (location related)
- Diarrhea – 45%
- Pancreatitis – 2%
- Sudden onset of diabetes - 1%
Incidental Finding on Imaging
Work Up

- Imaging CT (triphasic)
  - no mass -> EUS +/- FNA
  - mass +/- mets -> FNA (perc. Vs EUS)
- Tissue is the issue – adenoca, lymphoma, autoimmune panc (IGG4); chronic panc; acute panc
- CA 19-9 (low specificity – better for monitoring)
Management

- No lesion – clinical f/u vs repeat imaging at later interval
- Pre-cancerous lesion – surveillance vs surgical resection
- Carcinoma
  - resectable – surgery
  - borderline resectable – neoadjuvant therapy followed by restaging +/- surgery
  - unresectable – palliative therapy
Role of ERCP (mainly therapeutic)
ERCP - Pancreatoscopy
EUS and Pancreatic Cysts

• Diagnostic and management dilemma
• Differential diagnosis:
  – pseudocyst, serous cystadenoma, mucinous cystadenoma/cystadenocarcinoma, and IPMT.
• Characteristic echofeatures, FNA chemistry, and cytology can provide accurate diagnosis (Brugge et al).
• Mucinous lesions are pre-malignant lesions,
  – IPMT, mucinous cystadenoma
  – elevated CEA, clear viscous fluid
  – ongoing surveillance and/or surgery considered.
Cystic Pancreatic Lesions
Hematuria

- 60 yo male with no significant PMH noted to have microscopic hematuria
- W/u includes CT
- “Mildly prominent pancreatic duct throughout its entire course. No pancreatic masses. Nothing to explain this slight prominence to the pancreatic duct which measures 4 mm. This may be baseline for this patient.”
- Amylase – 63; lipase - 143
• PANCREAS TAIL LESION, NEEDLE BIOPSY: Mucinous neoplasm, consistent with intraductal mucinous papillary neoplasm

• PANCREAS NECK LESION, NEEDLE BIOPSY:
  1. No evidence of malignancy in this sample
  2. Rare cytologically benign epithelial cells in abundant amorphous debris, consistent with cyst

• PAPILLA OF VATER, BIOPSY: No dysplasia or malignancy
• PANCREAS DUCT - GENU MURAL NODULE (A), AND PANCREAS DUCT - HEAD MURAL NODULE (B), BIOPSY:
  1. Pancreatic intraductal papillary mucinous neoplasm (IPMN) with low grade dysplasia (both specimens)
  2. No evidence of invasion in this sampling
Endocrine tumors

- Functional vs nonfunctional
  - Insulinomas
  - Gastrinomas
  - Glucagonomas
  - Vipomas

- Often indolent or slow growing
- Imaging as with exocrine tumors
  - EUS esp helpful
- Management and prognosis