Pancreatic Cancer

Overview
- Case presentation
- Differential diagnosis
- Diagnosis and therapy
- Outcomes

CASE 1:
- A 78-year-old man developed painless jaundice.
- A computed tomography scan showed a mass in the head of the pancreas.

How do you determine whether a patient with jaundice might require medical versus surgical management?
CASE 1

• Severe intra- and extrahepatic biliary ductal dilation

CASE 1:

• What is in the differential diagnosis for a mass in the head of the pancreas?

Pancreatic Head Mass

Differential diagnosis

• Malignant/malignant potential
  – Periampullary cancer
  – Neuroendocrine tumor
  – Mucin-producing cystic neoplasm
  – Metastases to pancreas
  – Gastrointestinal stromal tumor of duodenum

• Benign
  – Chronic pancreatitis, autoimmune pancreatitis
  – Serous cystadenoma
  – Ampullary/duodenal adenomas
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• Differential diagnosis

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What is the preferred imaging modality?

• Multidetector CT scan
  – Water as oral contrast
  – \( \leq 1.25 \) mm thick slices
  – During arterial and venous phases

• Other modalities
  – MRI
  – Endoscopic ultrasound
  – Somatostatin receptor scintigraphy (Octreoscan)
  – Selective celiac and mesenteric angiography

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What is the preferred imaging modality?

• Standard CT
Pancreatic Mass

What is the preferred imaging modality?

- Pancreas protocol CT

Intrapancreatic splenule

- Pancreas protocol CT
- Heat damaged RBC scan

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What is the preferred imaging modality?

- Pancreas protocol CT

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What is in the role of biopsy?
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What is the role of biopsy?
- Routine tissue diagnosis not necessary
- Potential indications (will it alter care?)
  - Advanced disease
  - Plan for upfront/neoadjuvant chemo- or radiation therapy
  - Cystic lesions
  - Other

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Describe the different biopsy methods.
- Percutaneous (CT- or U/S-guided)
- Endoscopic ultrasound-guided (preferred)
- Intraoperative

Periampullary Tumors

Does the outcome differ depending on the site of origin of a periampullary cancer?
Periampullary Tumors

Periampullary Cancers
- Adenocarcinoma of:
  - Head, neck, and uncinate of the pancreas
  - Ampulla of Vater
  - Distal common bile duct
  - Peri-Vaterian duodenum
- Precise site of origin often unclear prior to removal


Periampullary Cancer

Consecutive series of 443 resected patients

Pancreas Cancer

Outcomes after resection

Riall et al. Surgery 2006

Pancreas Cancer

Long-term survival after resection by decade

Periampullary Cancers

Is routine preoperative biliary drainage indicated in patients with potentially resectable periampullary cancer?

Preoperative Biliary Drainage

Potential benefits
- Alleviate pruritus
- Correct coagulopathy
- Improve nutritional status
- Improve immunity
- Decrease postoperative morbidity and mortality?

Velanovich et al. JOP 2009

Preoperative biliary drainage

Randomized trial

Velanovich et al. JOP 2009

When might it be indicated?
- Planned neoadjuvant therapy
- Unable to proceed to surgery expeditiously
  - Medical comorbidities
  - Logistical factors
- Cholangitis
- Intractable pruritus and delay in surgery

Van der Gaag et al. NEJM 2010
Pancreatic Cancer

Underutilization of surgical resection

Summary

- Surgery is the only potentially curative therapy
- Long-term survival is possible after surgery
- Patients with early stage disease need proper evaluation
- Routine biopsy is not necessary
- Routine preoperative biliary drainage is not necessary

Pancreatic Cancer

Clinical, pretreatment Stage I (N = 0,559)

Surgery

Clinical, pretreatment Stage I (N = 0,559)

Surgery

Not Offered Surgery

Pancreactomy

Unresectable

No Surgery

6,823 (71.4%)

3,644 (38.2%)

Patient Refused 403 (4.3%) Advanced Age 899 (9.1%)

Unresectable 106 (1.1%)

Pancreatectomy 2,636 (27.5%)


Pancreatic Cancer

Underutilization of surgical resection

Whipple Procedure

- Resection
- Reconstruction