Periampullary Tumors

Overview
- Case presentation
- Differential diagnosis
- Diagnosis and therapy
- Outcomes
- Principles of palliative care

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

CASE 1:
- 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, lymphoplasmacytic sclerosing pancreatitis (LPSP)
  - Serous cystadenoma
  - Ampullary/duodenal adenomas
Pancreatic Head Mass

Differential diagnosis

<table>
<thead>
<tr>
<th>Differential diagnosis</th>
<th>No.</th>
<th>%</th>
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<tbody>
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<td>Periampullary cancer</td>
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<td>65</td>
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<tr>
<td>Pancreas</td>
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<tr>
<td>Ampulla</td>
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<td>Distal bile duct</td>
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<td>Duodenum</td>
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<td>Chronic pancreatitis</td>
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<td>Neuroendocrine tumors</td>
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<td>Intraductal papillary mucinous neoplasms</td>
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<td>5</td>
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<td>Cystadenoma/cystadenocarcinoma</td>
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<td>Ampillary/duodenal adenomas</td>
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<tr>
<td>Gastrointestinal stromal tumors</td>
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<tr>
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<td>Total</td>
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Pancreatic Mass

What is the preferred imaging modality?

• Multidetector CT scan
  - Water as oral contrast
  - ≤ 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
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What is the preferred imaging modality?

- Pancreas protocol CT

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Intrapancreatic splenule

- Pancreas protocol CT
  - Heat damaged RBC scan

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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

Describe the different biopsy methods.

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**


**Outcomes after resection**

- Consecutive series of 443 resected patients

Riall et al. Surgery 2006

**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?

Preoperative biliary drainage

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

Pancreatic Cancer

Underutilization of surgical resection

Clinical, pre-treatment Stage I (N = 3,539)

- Surgery: 2,738 (77.4%)
- No Surgery: 801 (22.6%)

Pancreatoduodenectomy: 2,930 (27.5%)
Unresectable: 106 (1.1%)

Not Offered Surgery: 3,544 (38.2%)
Patient Refused: 403 (4.2%)
Advanced Age: 1,291 (13.8%)
Comorbidities: 815 (9.4%)

Velanovich et al. JOP 2009
Van der Gaag et al. NEJM 2010
Pancreatic Cancer

Underutilization of surgical resection

Periampullary Tumors

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
Whipple Procedure

- Resection
- Reconstruction