Hepatobiliary and Pancreatic Malignancies

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Disclosures

- None to declare
My Practice Profile

- Surgical Oncology
  - Gastric cancer
  - Colorectal cancer
  - Hepatobiliary cancer
  - Pancreas cancer
  - Soft tissue sarcoma
  - Endocrine tumors (adrenal, thyroid)

- Endoscopy
  - Colonoscopy, gastroscopy

- General Surgery
  - Gallbladder disease
  - Parathyroid disorders
  - Hemia
Pancreas Cancer

- ~5500 new cases in Canada annually
  - ~4800 deaths annually
- Highly lethal malignancy
  - 12th most common cancer
  - 4th leading cause of cancer mortality
- 5 year overall net survival ~8%
Pancreas Cancer: Presentation

- Insidious course
- Clinical findings
  - Jaundice
  - Pain
  - Weight loss
- Stage @ presentation
  - Early ~15%
  - Widely metastatic >60%
Pancreas Cancer: Stage at Presentation

Surgical candidates
Pancreateicoduodenectomy (Whipple)
Pancreas Cancer: Outcomes

- **Median overall survival**
  - Surgery + chemo: 35-55 months
  - Without surgery: 6-12 months

- **5 year overall survival**
  - All stages: ~8%
  - Following resection: ~20%
Screening for Pancreas Cancer

- Selectively offered in high risk groups
  - No evidence of improved survival
- Annual imaging
  - Endoscopic US
  - MRCP
- No role for CA 19-9
- Not indicated in new onset diabetes

<table>
<thead>
<tr>
<th>High Risk Groups</th>
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<tbody>
<tr>
<td>Peutz-Jeghers</td>
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<tr>
<td>Hereditary Pancreatitis</td>
</tr>
<tr>
<td>BRCA1/2</td>
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<tr>
<td>“Familial Pancreas Cancer”</td>
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<tr>
<td>Familial atypical multiple mole and melanoma syndrome</td>
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Incidental Imaging Findings

- A modern epidemic

- American College of Radiologists:
  - “so prone to generating findings not intentionally sought that it is disingenuous to term them ‘unanticipated’ even if their precise nature cannot be anticipated in advance”

- Incidence of “incidental” finding 31% on CT
  - 64% underwent further evaluation
Solid pancreas tumors

- Solid pancreas lesions
  - >80% are malignant
  - Most common: pancreatic adenocarcinoma, neuroendocrine tumor
  - Rare: pseudotumor, pancreatitis, metastases

- All solid pancreas masses should be referred for further evaluation
Pancreatic Cysts

- Increasing incidence of diagnosis due to cross-sectional imaging
  - ~2-3% of CTs, increase with age, even higher with MR

Classification:
1. Pseudocysts (Most common; hx of pancreatitis)
2. Cystic neoplasms
3. Non-neoplastic cysts (Exceedingly rare)
Due to the malignant potential of many cystic neoplasms of the pancreas, all require evaluation by a specialist.

<table>
<thead>
<tr>
<th>Subtype</th>
<th>Behaviour</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serous cystadenoma</td>
<td>Benign</td>
<td>Nil</td>
</tr>
<tr>
<td>Mucinous cystadenoma</td>
<td>Malignant potential</td>
<td>Surgical resection</td>
</tr>
<tr>
<td>Intraductal papillary mucinous neoplasm</td>
<td>Malignant potential</td>
<td>High risk: Resection</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low risk: Surveillance</td>
</tr>
<tr>
<td>Solid pseudopapillary</td>
<td>Malignant potential</td>
<td>Surgical resection</td>
</tr>
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IPMN

- Intraductal Papillary Mucinous Neoplasm
- “Pre-malignant” lesions (aka. Polyp of the Pancreas)
- Imaging used to risk-stratify likelihood of malignancy
  - MRCP
  - Endoscopic ultrasound
- High-risk features
  - Size > 3 cm, mural nodules, main duct dilation, jaundice
Incidental Pancreas Lesions: Take Home Points

- Incidental pancreas lesions are increasingly common
- Solid pancreas mass is usually sinister – refer to specialist
- Pseudocysts require no management if asymptomatic
- **All** pancreatic cysts (eg. IPMN) require evaluation by a specialist and often require surveillance (regrettably)
Hepatobiliary Tumors
Incidental Gallbladder Findings

- Asymptomatic Cholelithiasis
  - Progression to symptoms ~3-5% per year
  - Prophylactic cholecystectomy not routinely indicated

- Gallbladder polyps
  - Many are “pseudopolyps”
  - Cholecystectomy required for “high risk: (ie. >1cm)
  - *Require surveillance if not removed*

- Adenomyomatosis
  - Benign finding requiring no treatment
Incidental Liver Findings

- **Simple cysts**
  - Most common liver abnormality (~5%)
  - Typically asymptomatic (unless enormous, >15 cm)
  - Benign
  - No surveillance and no treatment indicated

- **Hemangioma**
  - ~4% of population
  - Most common “solid” liver mass
  - Benign
  - Rarely symptomatic
  - No surveillance and no treatment indicated
# Liver Masses

<table>
<thead>
<tr>
<th>Solid</th>
<th>Cystic</th>
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<tbody>
<tr>
<td>Hemangioma</td>
<td>Simple cyst</td>
</tr>
<tr>
<td>Metastatic lesion (e.g. CRC)</td>
<td>Cystic neoplasm</td>
</tr>
<tr>
<td>Hepatocellular carcinoma (HCC)</td>
<td>Abscess</td>
</tr>
<tr>
<td>Intrahepatic Cholangiocarcinoma</td>
<td></td>
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<tr>
<td>Hepatic adenoma</td>
<td></td>
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<tr>
<td>Focal Nodular Hyperplasia</td>
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Liver Metastases

- Most common malignant lesion of the liver

- Origin
  - Colorectal cancer (most common)
  - Neuroendocrine (ie. Carcinoid)
  - Breast, Melanoma, Gastric, Renal cell, etc.

- Curative-intent liver resection can be offered in selected patients
  - “No patient is unresectable until assessed by a liver surgeon”
Hepatocellular Carcinoma

- Most common primary malignancy of the liver
- Typically occurs in context of chronic liver disease
  - Cirrhosis
  - Chronic HBV
- Staging and treatment has to consider BOTH extent of cancer and severity of liver disease
Hepatocellular Carcinoma

- Treatment options
  - Surgery
  - Ablation (radiofrequency, ablation)
  - Arterial therapy (chemoembolisation, radioembolisation)
  - Chemotherapy (sorafenib)
  - Transplantation
Screening for HCC

- High Risk Groups
  - Cirrhosis (Child’s A,B)
  - Chronic Hepatitis B
  - Chronic Hepatitis C with liver fibrosis

- Screening
  - Decreased HCC mortality 37%; NNS=430
  - Ultrasound every 6 months
  - +/-AFP

1. AASLD Guidelines 2017
2. EASLD Guidelines 2018
Work-up of Liver Mass

- Imaging
  - U/S
  - CT triphasic or MRI

- Laboratory
  - CBC, INR, liver panel
  - Tumor markers (CEA, AFP)
  - Hepatitis serology

- Biopsy
  - Rarely required
  - Diagnosis can almost always be made with imaging
  - Consultation with a surgeon before biopsy advisable

- Multi-disciplinary Tumor Board
  - qWednesday 12 noon @ CSI
Liver Resection

- Only potentially curative option for malignant lesions of liver
- Definition of resectability has evolved considerably
- Morbidity of liver resection has decreased substantially over last 10-20 years
  - Laparoscopic liver resections
  - Parenchymal preservation
Who do I call?

- HPB surgery?
- Gastroenterology?
- Medical Oncology?
- Palliative Care?

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Questions?
## Summary

<table>
<thead>
<tr>
<th>Finding</th>
<th>Recommendation</th>
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<tr>
<td>Adrenal incidentaloma (&gt;1cm)</td>
<td><strong>All</strong> require functional work-up CT adrenal protocol +/- refer to General Surgeon</td>
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<tr>
<td>Thyroid nodule</td>
<td>U/S TSH Majority &gt; 1 cm require FNA</td>
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<tr>
<td>Liver hemangioma</td>
<td>No follow-up required</td>
</tr>
<tr>
<td>Liver cyst (simple)</td>
<td>No follow-up required</td>
</tr>
<tr>
<td>Pancreas cyst</td>
<td><strong>All</strong> require review with a pancreas surgeon</td>
</tr>
<tr>
<td>Asymptomatic gallstones</td>
<td>No follow-up required</td>
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Peri-ampullary Cancers
Surgical Resection

- Surgery remains the best available treatment for resectable pancreas cancer BUT:
  - Few eligible at diagnosis (<15%)
  - High morbidity (~30-50%)
  - Mortality risk (~3-4%)
  - Poor long term oncologic outcomes (5 yr OS ~15%)