Neoplasias Quísticas del Páncreas

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Pancreatic Cystic Neoplasms
MGH 1978-2005 (n=576)

- 35% Intraductal Papillary Mucinous Neoplasm
- 23% Mucinous Cystic Neoplasm
- 9% Mucinous Cystadenocarcinoma
- 22% Serous Cystadenoma
- 5% Solid Pseudopapillary Neoplasm
- 3% Cystic Islet Cell Tumor
- 3% Other

* lymphangioma, dermoid cyst, cystic acinar cell acrcinoma, epithelial “simple” cyst.
Intraductal Papillary Mucin-Producing Neoplasms (IPMNs)
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- Papillary proliferations of neoplastic mucin secretory cells that arise in the main pancreatic duct or its major branches.

- Median age: 6th-7th decade (mean: 68 yrs).

- 1-3% of exocrine pancreatic neoplasms (incidence rate <1 per 100,000)

- Increase in diagnosis parallels the wider use of sophisticated imaging modalities.
Main+Side Branch (combined) IPMN
Gastric

Intestinal

Pancreatobiliary

Oncocytic
IPMN, oncocytic variant
Grading of IPMNs

- **BENIGN**
  - IPMN-Adenoma

- **BORDERLINE**
  - IPMN-Borderline

- **MALIGNANT**
  - IPMN-Carcinoma (non invasive)
Ductal adenocarcinoma

Colloid adenocarcinoma
IPMNs - Prognosis

• 5-yr survival rate (60-83%).
• Excellent:
  – adenoma and borderline tumor
  – 5-year survival $\approx 100\%$, provided that appropriate sampling has eliminated concurrent adenocarcinoma.
• Good for IPMN w/non-invasive carcinoma.
MUCINOUS CYSTIC NEOPLASM
MUCINOUS CYSTIC NEOPLASM

- Exclusively in women (almost).
- No communication w/ ductal system.
- Columnar mucin-producing epith. supported by ovarian-type stroma.
- 5th decade (range: 20-82)
Estrogen Receptor

Progesterone Receptor
MCN-Adenoma

MCN-Borderline

MCN-Carcinoma (non invasive)
Prognosis of MCNs:

• Excellent:
  – Noninvasive lesion
    - completely removed
    - regardless of the degree of cellular atypia.

• Poor:
  – Inv. Mucinous cystadenocarcinoma
    1) correlates w/ amount of invasion of tumor wall and surrounding tissues.
    2) lower survival rate if >50 years.
Serous Cystadenoma

- Composed of various numbers of cystic structures lined by glycogen-rich cuboidal epithelium.

- Adults, F>>M (70% vs 30%).

- Age: 18-91 yrs old, (median: 7th decade)

- Etiology and pathogenesis unknown.
  - Asso. w/ Von Hippel-Lindau and chromosomal alterations (deletion /mutation) of 3p25 found in most cases.
median rate of growth for all tumors (n=24) = 0.60 cm/year
Serous cystadenocarcinoma

- Gastric varices, invasion of stomach and splenic vein, jaundice, and palpable abdominal masses.

- Size: 2.5-12 cm.

- Maintain a spongy appearance.

- Deceptive histology.
  - Mild focal nuclear pleomorphism can be found.
  - Perineural & vascular invasion, LN mets reported.

- Slow-growing - prolonged survival.
Solid pseudopapillary neoplasm
Solid pseudopapillary neoplasm (SPN)
"solid and cystic," "papillary cystic," "solid and papillary epithelial" neoplasm.

- <10% of cystic pancreatic neoplasm.
- Benign - predilection for young women.
  - Mean age 35 yrs (range 8 to 67).
- Etiology unknown
  - differences in sex and age point to genetic and hormonal factors
- ? Catenin
- 1-antitrypsin
- (chymotrypsin)
- VIM
- progesterone receptors
- (Chromogranin A)
- SYN
- (CA19.9)
- Pan-CK
SPN-Prognosis

- Extremely good.
  --> 95% cured after complete resection.
  - Local spread to peritoneum and hepatic mets, not inconsistent w/ relatively indolent course and long disease-free periods.
Predictors of poor prognosis

- Venous invasion
- Nuclear atypia
- High mitotic activity
- Necrobiotic cell nests
- Geographic necrosis
- Sarcomatoid transformation.
Pancreatic Endocrine Neoplasms

[Image of a medical specimen and histological sections]
Cystic Pancreatic Adenocarcinoma
Acinar Cystadenocarcinoma
<table>
<thead>
<tr>
<th>Type</th>
<th>Gender predilection</th>
<th>Peak decades</th>
<th>% of Cystic tumors</th>
<th>Malignant potential / Natural history</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serous cystadenoma</td>
<td>F&gt;&gt;M</td>
<td>7th</td>
<td>32 to 39%</td>
<td>Resection is curative. Serous cystadenocarcinoma is rare.</td>
</tr>
<tr>
<td>Mucinous cystic neoplasm</td>
<td>F&gt;&gt;M</td>
<td>5th</td>
<td>10 to 45%</td>
<td>Resection is curative regardless of the degree of epithelial dysplasia. Poor prognosis when invasive adenocarcinoma is present.</td>
</tr>
<tr>
<td>IPMN</td>
<td>F=M</td>
<td>6-7th</td>
<td>21 to 33%</td>
<td>Excellent prognosis for lesions showing only adenomatous and borderline cytologic atypia. Poor prognosis when invasive carcinoma is present.</td>
</tr>
<tr>
<td>SPN</td>
<td>F&gt;&gt;M</td>
<td>4th</td>
<td>&lt;10%</td>
<td>Indolent neoplasm with rare nodal and extranodal metastases. Excellent prognosis when completely resected.</td>
</tr>
<tr>
<td>Cystic endocrine neoplasm</td>
<td>F=M</td>
<td>5-6th</td>
<td>&lt;10%</td>
<td>Similar to solid neuroendocrine type.</td>
</tr>
<tr>
<td>Ductal Adenocarcinoma with cystic degeneration</td>
<td>M?F</td>
<td>6-7th</td>
<td>&lt;1%</td>
<td>Dismal prognosis, similar to solid adenocarcinoma type.</td>
</tr>
<tr>
<td>Acinar cell cystadenocarcinoma</td>
<td>M&gt;F</td>
<td>6-7th</td>
<td>&lt;1%</td>
<td>Similar to solid type. Aggressive neoplasm with a slightly better prognosis than ductal adenocarcinoma</td>
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</tbody>
</table>