Background

Pancreatic Cancer

- Insidious onset, vague clinical presentation, high rate of metastasis at diagnosis, and high recurrence rate
- Pancreatic ductal adenocarcinoma (PDAC) has a <10% 5-year survival rate
- 52,546 new cases in 2018: 3 Estimated 60,430 new cases in 2021
- Death Rate 11.1 per 100,000 person years
- Overall 5-year survival rate 10.8%

Intraductal Oncocytic Papillary Neoplasm (IOPN)

- One of four histologic subtypes of Intraductal papillary-mucinous neoplasm (IPMN)
- Diagnosis rates for IPMN is increasing (8%-20%)
- IPMNs have an adenocarcinoma-sequence occurring over 5 years
- IPMNs incidence is 0.48-2.0 per 100,000 person years
- IOPN estimates to make up 1-3% of all IPMNs \( \rightarrow \) 5-year survival rate of 69%

<table>
<thead>
<tr>
<th>IPMN</th>
<th>Type</th>
<th>Location</th>
<th>Frequency</th>
<th>Prognosis</th>
<th>% of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adenocarcinoma</td>
<td>N = 35</td>
<td>N = 41</td>
<td>N = 28</td>
<td>N = 13</td>
<td>N = 38</td>
</tr>
<tr>
<td>Carcinoma</td>
<td>N = 22</td>
<td>N = 27</td>
<td>N = 24</td>
<td>N = 10</td>
<td>N = 23</td>
</tr>
<tr>
<td>Adenoma</td>
<td>N = 17</td>
<td>N = 21</td>
<td>N = 17</td>
<td>N = 6</td>
<td>N = 9</td>
</tr>
<tr>
<td>Adenocarcinoma</td>
<td>N = 19</td>
<td>N = 23</td>
<td>N = 19</td>
<td>N = 7</td>
<td>N = 17</td>
</tr>
<tr>
<td>Adenoma</td>
<td>N = 13</td>
<td>N = 17</td>
<td>N = 13</td>
<td>N = 4</td>
<td>N = 10</td>
</tr>
</tbody>
</table>

| Table 1. Description of Gastric, Intestinal, Pancreatobiliary, and Oncolytic subtypes of IPMN |

| Table 2. Determination of pancreatic cancer staging using TNM and associated median survival length |

<table>
<thead>
<tr>
<th>Stage</th>
<th>T1</th>
<th>T2</th>
<th>T3</th>
<th>T4</th>
</tr>
</thead>
<tbody>
<tr>
<td>N0</td>
<td>N1</td>
<td>N2</td>
<td>N3</td>
<td>N4</td>
</tr>
</tbody>
</table>

| Figure 1. Abdominal/Pelvis CT Scan depicting a mass involving the pancreatic head |

Case Description

History of Presenting Illness

- 50-year-old female PMHx of anxiety, depression, hypothyroidism, COPD, migraines, and recent onset diabetes mellitus II
- Referred to hepatobiliary surgery with a cystic mass of the pancreas, associated pancreatic duct obstruction, and subsequent pancreatic failure, diarrhea, and weight loss.
- One year prior she was evaluated for chronic diarrhea, stools suggested pancreatic insufficiency and an abdominal CT scan showed a pancreatic mass and chronic pancreatitis.
- Over six months she had a 30lbs unintentional weight loss
- Timely and consistent workup was disrupted due to inconsistent follow-up
- PSgrft: hypesthesia
- Medications:
  - Metformin 1000mg PO bid
  - Paracetaemol 250-500 mg bid
  - Ursapoxoid 10mg PO daily
  - Lansoprazole 30mg PO daily
- Allergies: NKDA
- Fxhs: Breast cancer and lung cancer; no family history of pancreatic cancer
- SHxs: Current smoker with hx of 30 pack years; Extensive alcohol history with “drinking 10-12 beers per week”

Physical Exam

Vital Signs: T: 36.7ºC HR: 81 bpm RR: 18 breaths/min BP: 106/70
SpO2: 97% RA Height: 5'2" Weight: 43.2 kg BM: 17.99 kg/m²

Constitutional: acute distress, non-toxic appearing, no diaphoresis, cachectic

Skin: warm and dry, no ecchymosis or erythema, no jaundice, no telangiectasia

Eyes: no cataracts, no conjunctiva, PERRLA

Cardiovascular: normal rate and rhythm, normal S1 and S2

Pulmonary: normal respiratory effort, CTAB, no distress or accessory muscle use

Abdomen: flat and non-distended, a transverse surgical scar is present just superior to the pelvis, a mass was palpated in the RUQ, no shifting dullness, fluid wave, hepatitisome or splenomegaly appreciated

Neurologic: no focal deficit present, AOX3, no astersis

Psychiatric: normal mood, appropriate affect, normal thought content, mildly anxious

Diagnostic Studies

- BMP/CBC/Lfts/Lipase-normal
- CA 19-9: 11 units/mL (0-31 units)
- Stool Samples: pancreatic insufficiency with abnormal chymotrypsin and amylace
- A/P CT scan: 35 x 31 mm cystic and solid mass involving the pancreatic head that without invasion
- EGD with EUS: pancreatic ductal obstruction, chronic pancreatitis

Biopsy: cellular atypia with mucinous cystic neoplasm papillary clusters of oncocytic epithelial cells

Pancreaticoduodenectomy (Whipple Procedure)

- Treatment: surgical resection & possible neoadjuvant therapy
- +/- post-op chemotherapy

Hospital Course:

- POD0: Admission to gowned surgery room
- POD1: Patient performed Transfused to PACU due to hemorrhage from subtel IP
- POD2: Failing to meet resistance
- POD3: PO diet advised a clear liquid
- POD4: IV fluids & antiemetic
- POD5: Follow-up CT scan
- POD6: IV fluids & antiemetic
- POD7: IV fluids & antiemetic
- POD8: IV fluids & antiemetic

Final Pathology Diagnosis:

- pT1c pN2 Stage III IOPN with invasive pancreatic ductal adenocarcinoma
- 5/24 positive lymph nodes

Discussion/Conclusion

- Stage III pancreatic cancer with locally advanced disease is typically unexcetable
- These statistics include PDAC and may not be representative of this case of IOPN
- This case highlighted the heterogeneous features of IOPN tumors by displaying invasive PDAC
- Not all pancreatic cancers harbor as grim of a prognosis as PDAC
- Providers should be aware of this possible diagnosis when working up any pancreatic mass

References

-“There is no reason to believe this patient is at greater risk of recurrence or mortality than other patients with this diagnosis.”
-“The Whipple procedure is the gold standard for resection of pancreatic ductal adenocarcinoma.”
-“The gold standard for the treatment of pancreatic ductal adenocarcinoma is pancreaticoduodenectomy.”
-“The Whipple procedure is the most common operation performed for pancreatic cancer.”

Acknowledgments

I would like to thank David Curtis, MD for allowing me to be involved in the care of this patient as well as his education provided on an uncommon issue. And thankyou Jeffrey Carrus, PA-C for presecting me and cultivating an interest for hepatobiliary surgery.