20 year old woman presented for evaluation of a 3 cm mass in the tail of pancreas.

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EUS FNA (Onsite smears, ThinPrep, Cell Block) & Surgical resection histology

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Surgical resection
Diagnosis
Pancreatic Pseudopapillary Tumor

Key facts

• Epidemiology

• Key cytomorphological features

• Ancillary studies and Differential diagnosis

• References
Pancreatic Pseudopapillary Tumor

Epidemiology:

– 1–3% of all pancreatic malignancies and 6% of exocrine tumors.
– Approximately 90% are found in women in their twenties (mean age, 28 years).
  – They do occur in both young and old men.
– Almost one-third of patients are asymptomatic.
– Symptomatic patients present with nonspecific gastrointestinal complaints (abdominal pain, nausea and vomiting, and dyspepsia).
Pancreatic Pseudopapillary Tumor

Key cytomorphological features:

- **Solid cellular smear pattern** with or without branching and papillary cell clusters
- **Fibrovascular myxoid stromal papillae**
- **Nuclear Features:**
  - Round to oval with frequent nuclear grooves or focal indentations and finely granular chromatin and inconspicuous nucleoli
- **Cytoplasm:**
  - Typically scant and ill-defined but can be moderate with small perinuclear vacuoles or intracytoplasmic hyaline globules, best detected on air-dried smears
- **Smear background:**
  - Clean or filled with hemorrhagic cyst debris, foamy histiocytes, and multinucleated giant cells
Pancreatic Pseudopapillary Tumor

• Ancillary studies and Differential diagnosis:
  – The key diagnostic marker is **β-catenin expression in stains the nuclei and the cytoplasm** of the tumor cells.
  – Positivity for α-1-antitrypsin, CD10, CD56, vimentin, CD117, and progesterone receptor.
  – The majority of solid-pseudopapillary neoplasms show a **point mutation in exon 3 of the β-catenin gene**.
  – The **differential diagnosis** of solid-pseudopapillary neoplasm includes the other solid cellular neoplasms, especially **PanNET**.
  – The characteristic pseudopapillary structures with **myxoid or hyalinized vascular stalks**, along with the **typical clinical presentation (usually young women)** and **imaging characteristics**, provide clues to the correct FNA diagnosis.
Pancreatic Pseudopapillary Tumor

• References: