Case Report: Sister Mary Joseph's Nodule as Initial Presentation of Primary Pancreatic Adenocarcinoma

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Background:

- Dr. Hamilton Bailey coined the term Sister Mary Joseph's Nodule in 1949 in recognition of Sister Mary Joseph, a nurse and surgical assistant to Dr. William James Mayo.
- She was the first to recognize the relationship between firm masses at the umbilicus with underlying intra abdominal and pelvic malignancy
- Metastasis to the umbilicus is seen in only 1-3% of abdominopelvic malignancies and is most commonly seen in gastric and gynecologic cancers.
- Of cancers that metastasize to the umbilicus, 7-9% are of pancreatic origin.
- The finding of a Sister Mary Joseph Nodule as an initial presentation of cancer is associated with a poor prognosis, with an average survival of less than 4 months.

Case:

- 68 year old female with past medical history of diabetes mellitus
- Presented to the ER with peri umbilical hernia.
- She had the umbilical hernia for over six years
- Recent discoloration of the skin and inability to reduce the hernia
- Vitals were stable , afebrile, WBC 6 K/uL with no abdominal pain
- CT imaging
  - fat-containing hernia
  - 6x5 cm lesion at the pancreatic tail
- Patient taken to the OR for open repair of umbilical hernia
- Operative findings
  - incarcerated fat
  - large cystic and solid components attached to underlying omentum
- Surgical pathology
  - Metastatic pancreatic adenocarcinoma
  - Immunohistochemical stainings
    - positive CK7,
    - negative CK20, CDX-2, calretinin, PAX-8 and GATA-3



Image 1 – Patient's initial abdominal presentation

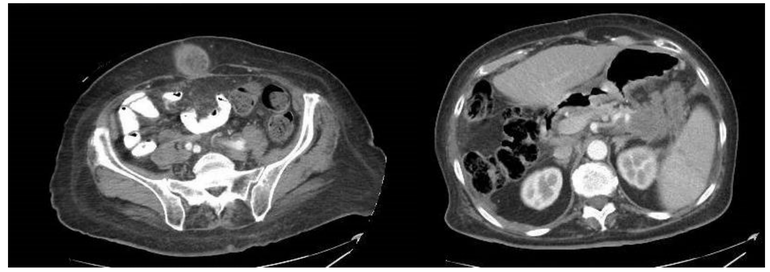
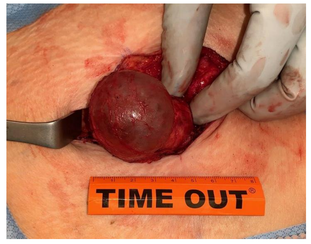


Image 2a & 2b – CT Scan showing umbilical hernia and pancreatic mass



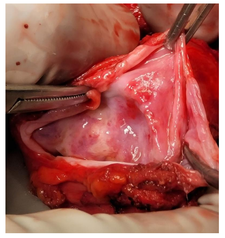
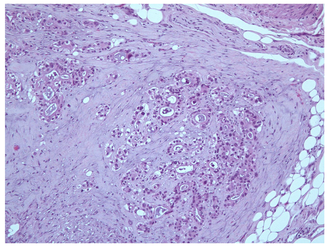
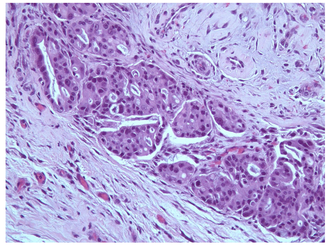


Image 3a & 3b – Intraoperative findings before and after opening the hernia sac





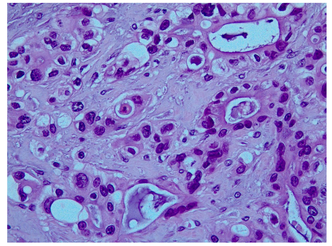


Image 4a, 4b and 4c – Microscopy: H&E stains under 10x,20x, & 40x magnifications

Conclusions:

- In a patient with no known history of cancer, an umbilical mass may serve as a rare initial presentation of an underlying, and likely advanced, malignant process.
- The number of case reports describing this phenomenon with a wide range of underlying pathology demonstrates how nonspecific umbilical metastasis is to a particular type of cancer.
- These findings should prompt clinicians to pursue a comprehensive work-up for an underlying malignancy.

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