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Sister Mary Joseph Nodule: A Dermatological Insight into Metastatic Pancreatic Cancer

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Abstract **Case Report**

The Sister Mary Joseph (SMJ) nodule is a metastatic umbilical growth observed in primary tumors originating from the gastrointestinal or genitourinary tract. Commonly, SMJ nodules are associated with gastrointestinal cancers, particularly those affecting the stomach and colon. While the pancreas is an uncommon primary site for umbilical metastasis, pancreatic adenocarcinoma that spreads to the umbilicus typically originates from the body or tail of the pancreas. The presence of an SMJ nodule often indicates a poor prognosis, serving as a straightforward physical indicator of advanced intra-abdominal malignancy. Although pancreatic cancer is a rare cause, it should be considered among the primary sites in such cases. This report details a case of an SMJ nodule unveiling pancreatic adenocarcinoma in a 61-year-old patient. The case underscores the significance of examining the umbilicus, an area frequently overlooked but crucial for diagnosis. Vigilant clinical follow-up and histological evaluation are imperative in such cases, highlighting the importance of not underestimating this infrequently assessed region.

Keywords: Sister Mary Joseph nodule, Umbilical metastasis, Pancreatic cancer.

INTRODUCTION

Sister Mary Joseph's nodule (SMJN) is an umbilical lesion caused by intra-abdominal and/or pelvic tumor metastasis [1]. It was named after Sister Mary Joseph, a surgical assistant at the Mayo Clinic, who pointed out to the surgeon that umbilical nodules may be one of the signs of metastasis of malignant abdominal and pelvic tumors. Pancreas is a rare primary site for umbilical metastasis. It has a problem of etiological diagnosis because the search for the primary tumor is not always easy. The aim of our work is to highlight the delayed diagnosis, and to emphasize the importance of examination of the umbilical area and correctly diagnosing an umbilical nodule in order to avoid this dela.

CASE REPORT

A 61-year-old man presented with jaundice for 4 weeks. He gave a history of weight loss during this period. There was no epigastric discomfort, vomiting, gastrointestinal bleed, or palpable mass in the abdomen. On examination, a hard pigmented nodule measuring 2 × 2 cm in size was noted in the umbilicus. The skin over it was fixed, and there was serous discharge (Figure 1). The tests showed an elevation of Alkaline Phosphatase: 270 U/L and of Gamma-Glutamyl transpeptidase (GGT): 93 U/L and also of bilirubin 204.3 mg/L. Complete hemogram showed a hemoglobin of 13 g/dL. His blood sugar and renal tests were normal. Abdominal computed tomography (CT) showed a nodule at the umbilicus measuring 19.4 x 19.4 mm and a heterogeneously enhancing mass measuring 52 x 38 mm, occupying the body of the pancreas. His CA19-9 was 1906 U/mL. Histological and immunohistochemical examination of the umbilical mass biopsy was in favor of umbilical metastasis of a pancreatic adenocarcinoma.

The diagnosis of an advanced primary pancreatic malignancy with metastasis to the umbilicus was considered. He was referred to oncology services for palliative treatment. However, the patient died three months later.

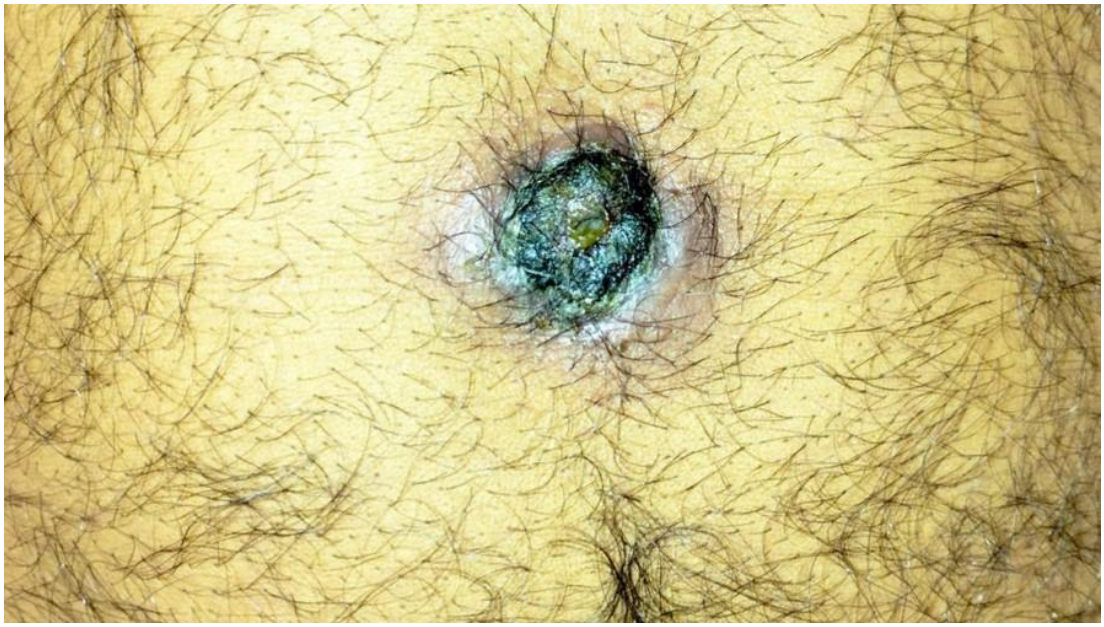

Figure 1: Sister Mary Joseph's nodule measuring 2 × 2 cm in size

DISCUSSION

Umbilical metastasis is rare in clinical practice and represents only 10% of all cutaneous metastasis in cancer [3]. Two-third of primary lesions arise from the gastrointestinal tract, stomach, and colon being the more common sites. The origin of the primary tumor is unknown in 15%–30% patients [4, 5]. The pancreas is a rare primary site for SMJ nodule. Approximately 6% of umbilical metastases are pancreatic in origin [4]. The exact mechanism of its spread to the umbilicus is not known. Intraperitoneal dissemination and implantation of exfoliated pancreatic tumor cells on to the umbilicus or direct invasion from peritoneal metastasis are the most common mechanisms responsible for a SMJ nodule. Other postulated modes of spread to the umbilicus include invasion through arteries, veins, lymphatics, or via the umbilical ligament [4, 6].

SMJ nodules are painful, indurated, irregular, and often hard in consistency. The surface may be ulcerated or necrotic with serous, serosanguinous, or pus discharge. They are usually 0.5–2 cm in size but can progressively enlarge up to 10 cm [5]. Umbilical nodules can also occur in other conditions such as mycosis, angioma, endometriosis, pyogenic granuloma, eczema, Paget disease, teratoma, dermoid cyst, or hypertrophic scar [3, 4]. The diagnosis is usually made by fine needle aspiration cytology, which has excellent sensitivity and positive predictive value.

Adenocarcinoma constitutes 75% of SMJ nodules. Some of the other histological findings reported include squamous cell carcinoma, anaplastic carcinoma, non-Hodgkin lymphoma, and cholangiocarcinoma [5]. Immunohistochemistry studies of SMJ nodule for CK will help in the evaluation and classification of unknown primary tumors. In addition, the elevation of CA19-9 is strong evidence of pancreatic cancer. Imaging modalities such as ultrasound, CT scan, magnetic resonance imaging, or positron emission tomography CT and tumor markers are useful in the detection of the primary lesion.

The presence of a SMJ nodule usually indicates a poor prognosis, with mean survival often less than a year. The outcome is even worse in pancreatic cancer because the average survival is less than 3 months. When SMJN is the sole metastatic lesion and the general condition of the patient is adequate, the patient may receive intensive multimodal treatment, mainly surgical resection and systemic chemotherapy. Patients with multiple metastases and/or poor performance status tend to require supportive care or palliative systemic therapy [6]. However, aggressive surgery and adjuvant therapy have been reported to improve survival, especially in patients presenting with SMJ as a solitary metastasis [2].

CONCLUSION

The identification of an umbilical metastatic nodule serves as a valuable physical indicator, providing a hint towards an underlying advanced gastrointestinal malignancy. Despite its rarity, it is essential to consider pancreatic cancer as a potential primary site in individuals initially presenting with the Sister Mary Joseph (SMJ) nodule.

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