



Letter to Editor

Sister Mary Joseph's Nodule: A short compilation

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Sir,

Sister Mary Joseph's Nodule (SMJN) is the metastasis of the visceral malignancy to the umbilicus. Sister Mary Joseph (1856-1939), who was superintendent nurse at St. Mary's Hospital in Rochester, Minnesota, USA, observed that patients with intra-abdominal or pelvic malignancy often had an umbilical nodule. Sir Hamilton Bailey coined the term "Sister Mary Joseph's nodule" in 1949 to define the presence of metastatic umbilical lesions¹. These metastatic umbilical lesions can originate from any visceral organ, the most common ones being the stomach and the colon for males, and the ovaries for females. Other reported primary regions include the cecum, the pancreas, the gallbladder, fallopian tubules, the endometrium; and more rarely the prostate, and the lungs. The origin of the metastasis cannot be determined in 11% of the patients. Epidemiological studies indicate that these lesions are more common among women. The presence of umbilical metastasis is a symptom of advanced stage cancer and is associated with poor prognosis. The average survival time is 10-12 months.

The cutaneous metastases localized in the umbilicus are named as SMJN. The majority of the metastatic lesions have an irregular appearance and are 1-1.5cm in diameter (this diameter can reach 10cm)². The SMJNs mostly lead to pain in the anterior abdominal wall, and their surface can have a necrotic appearance (**Figure 1**). These lesions can be white, bluish purple or brownish red. They may also be accompanied by a bloody, purulent, serous or mucous secretion.

There are several hypotheses regarding the skin metastasis to the umbilicus. The first is through the peritoneum; the second is through the axillary, inguinal and paraaortic lymph nodes; the third is venous, spread through the anastomoses between the umbilical veins and the epigastric, lateral thoracic or internal mammary veins. Additionally, a venous spread can be through the anastomoses

between the umbilical veins and the portal vein, if there is hepatopathy. Direct spread through the peritoneum is usually observed in gastrointestinal tumors.



Figure 1: Sister Mary Joseph's Nodule in the umbilical region secondary to a gastric adenocarcinoma

A retrospective study that evaluated the records of 99 patients admitted to the hospital with an umbilical mass found that 59.6% of the patients had a malignant mass, whereas 40.4% had benign masses. All malignant masses were found to be metastatic and the origin was mostly gynecologic or gastrointestinal. Twenty-five of the patients with

a metastatic umbilical mass (42.3%) had applied to the hospital 7 months after the initial diagnosis³.

The differential diagnosis of umbilical lesions is extensive and can be divided into benign causes vs. primary malignancies vs. an umbilical nodule due to metastases (Sister Mary Joseph's nodule). Benign causes include umbilical hernias, cysts, teratomas, skin tags, angiomas, abscess, pyogenic granulomas, formation of an omphalith (due to concretions of the umbilicus), or endometriosis. Primary umbilical malignancies include basal cell carcinomas, mesenchymal tumors and melanomas⁴. The histopathological examination of biopsies taken from the umbilical lesions detects primary origin of the lesion.

The majority of the umbilical metastases originate from adenocarcinomas (75-93%), followed by squamous cell carcinomas, undifferentiated malignant tumors, and carcinoids⁵.

A diagnostic modality for the subcutaneous and cutaneous metastases of internal cancers is a fine-needle biopsy. This method is sufficient for an easy and early diagnosis. If the person has a known history of cancer, a radiological examination can be used to support the diagnosis.

The main treatment approach for SMJN is the treatment of the originating tumor. Studies with these patients indicate that an aggressive treatment including both surgery and chemotherapy are useful. A study has found that the survival time was 17.6-21 months for primary surgery and adjuvant chemotherapy, 7.4 months for solely primary operation, and 10.3 months for solely chemotherapy⁶.

The umbilical lesions found in the detailed physical examinations of the patients with especially gastrointestinal and genitourinary cancers may indicate SMJNs. These lesions must be pathologically confirmed through biopsy. Even if this finding indicates advanced stage cancer, the survival of the patient can be extended through conventional chemotherapy regimens.

REFERENCES

1. Bailey H. Demonstration of Physical Signs in Clinical Surgery, 11th ed. Williams & Wilkins, Baltimore, 1960. 227.
2. Barrow MV. Metastatic tumors of the umbilicus. *J Chronic Dis.* 1966;19:1113-17.
3. Yan L, Sethi S, Bitterman P, Reddy V, Gattuso P. Umbilical lesions: clinicopathologic features of 99 tumors. *Int J Surg Pathol.* 2018;26(5):417-22.
4. Sina B, Deng A. Umbilical metastasis from prostate carcinoma (Sister Mary Joseph's nodule): a case report and review of literature. *J Cutan Pathol.* 2007;34:581-3.
5. Renner R, Sticherling M. Sister Mary Joseph's nodule as a metastasis of gallbladder carcinoma. *Int J Dermatol.* 2007;46(5):505-7.
6. Majmudar B, Wiskind AK, Croft BN, Dudley AG. The Sister (Mary) Joseph's nodule: its significance in gynaecology. *Gynaecol Oncol.* 1991;40:152-9.

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