



Medical Imagery

Sister Mary Joseph Nodule: A Poor Prognostic Indicator in Metastatic Rectal Cancer

Cheng-Wei Huang, Jian-Syun Chen *

Division of Colon and Rectal Surgery, Department of Surgery, Taipei Mackay Memorial Hospital, Taipei, Taiwan

ARTICLE INFO

Accepted 29 March 2021

An 80-year-old woman has medical history of cerebral vascular disorder and heart disease.

She visited hospital for progressed abdomen fullness and bloody stool passage. Physical examination revealed a 2 centimeter firm, mobile, non-tender umbilical nodule. The abdomen was distended without tenderness. Digital rectal examination revealed a tumor mass in the rectum located 3 cm proximal to anal verge. Colonoscopy and biopsy showed low rectal adenocarcinoma causing obstruction. Laboratory investigations revealed anemia (Hb: 8.9 g/dL) and carcinoembryonic antigen elevation (CEA: 85.18 ng/mL). Abdomen computed tomography and pelvic magnetic resonance imaging with enhancement (Figure 1) showed round umbilical nodule, right adnexa mass, rectal cancer with uterine invasion and suspected omental carcinomatosis. The patient underwent radical surgery including abdominal perineal resection, excision of umbilical tumor, bilateral salpingo-oophorectomy, subtotal hysterectomy and omentectomy. Complete excision of visible tumors was achieved. The pathological result was poorly differentiated mucinous carcinoma of distal rectum with stage of pT4bN2bM1c. Genetic profile was Ras and BRAF wild type. Immunostaining of the umbilical tumor supported that it was came from colorectal origin (CK20 positive, CDX-2 positive, CK7 negative). She subsequently received 13 courses of chemotherapy and target therapy with biweekly Folfiri and Cetuximab. However, liver, para-aortic lymph nodes, bone metastasis and local recurrence developed within 9 months after surgery. The patient expired due to subsequent event of sepsis and multiple organ failure 10 months after surgery.

Umbilical metastatic lesion resulting from intra-abdominal and/or pelvic malignancies is called Sister Mary Joseph's nodule (SMJN). Its incidence is 1%–3% of all intra-abdominal or pelvic malignancies.¹

* Corresponding author. Division of Colon and Rectal Surgery, Department of Surgery, Taipei Mackay Memorial Hospital, No. 92, Section 2, Chung-San North Road, Taipei, Taiwan.
E-mail address: b101091039@tmu.edu.tw (J.-S. Chen)



Figure 1. (A) T2-weighted MRI showed a low rectal tumor with possible mesorectal fascia invasion (arrows). (B) An umbilical nodule with intermediate signal intensity under T2-weighted MRI (arrows). (C) Hard umbilical nodule with bleeding tendency seen on physical examination (arrows).

Colorectal origin accounts for 10% of incidence.^{2,3} The survival in patients with Sister Mary Joseph nodule without treatment was 2 to 11 months⁴ and merely extended to 17.6 to 21 months with aggressive treatment.⁵ The umbilical nodules could be easily palpated and seen during the physical examination at outpatient department. Physician should always keep in mind that the possible of intraabdominal or/and pelvic malignancies and poor outcome.

References

1. Calongos G, Ogino M, Kinuta T, et al. Sister Mary Joseph nodule as a first manifestation of a metastatic ovarian cancer. *Case Rep Obstet Gynecol.* 2016;2016:1087513.
2. Premkumar M, Rangegowda D, Vyas T, et al. Cholangiocarcinoma presenting as a Sister Mary Joseph nodule. *ACG Case Rep J.* 2016;3(3):209–211.
3. Dar IH, Kamili MA, Dar SH, et al. Sister Mary Joseph nodule-A case report with review of literature. *J Res Med Sci.* 2009;14(6):385–387.
4. İřcan Y, Karip B, Onur E, et al. Sister Mary Joseph nodule in colorectal cancer. *Ulus Cerrahi Derg.* 2016;32(4):295–297.
5. Palaniappan M, Jose WM, Mehta A, et al. Umbilical metastasis: a case series of four Sister Joseph nodules from four different visceral malignancies. *Curr Oncol.* 2010;17(6):78–81.