



## Case Report

# Metastatic Serous Carcinoma Initially Presented as an Incarcerated and Strangulated Umbilical Hernia: A Rare Case Report

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## Abstract

**Introduction:** We report a rare case of a metastatic serous ovarian carcinoma presented as an incarcerated and strangulated umbilical hernia.

**Presentation of case:** A 54 year-old female was admitted to the hospital with a painful mass around the umbilical region. It was elucidated during clinical history that the mass had been present for 3 to 4 years without pain. An incarcerated and strangulated umbilical hernia including a solid mass and mesenteric fat was detected on physical examination. She underwent an urgent operation for strangulated umbilical hernia. The pathological diagnosis of the hernia material was reported as carcinoma compatible with serous ovarian carcinoma metastasis. Concurrently, total abdominal hysterectomy and bilateral salphingo-oophorectomy, pelvic and paraaortic lymph node dissection, omentectomy and sigmoid colon resection were performed. Histopathological evaluation confirmed the serous carcinoma originated from the left ovary.

**Conclusion:** In the literature, some metastatic tumors have been reported to be presented as umbilical metastasis rarely. However, the present case is the first metastatic ovarian cancer that initially presented as an incarcerated and strangulated umbilical hernia in the literature, to the best of our knowledge.

**Keywords:** umbilical metastasis; ovarian serous carcinoma; incarcerated hernia; strangulation

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**Consent:** Consent was taken from the patient for publication of this case report.

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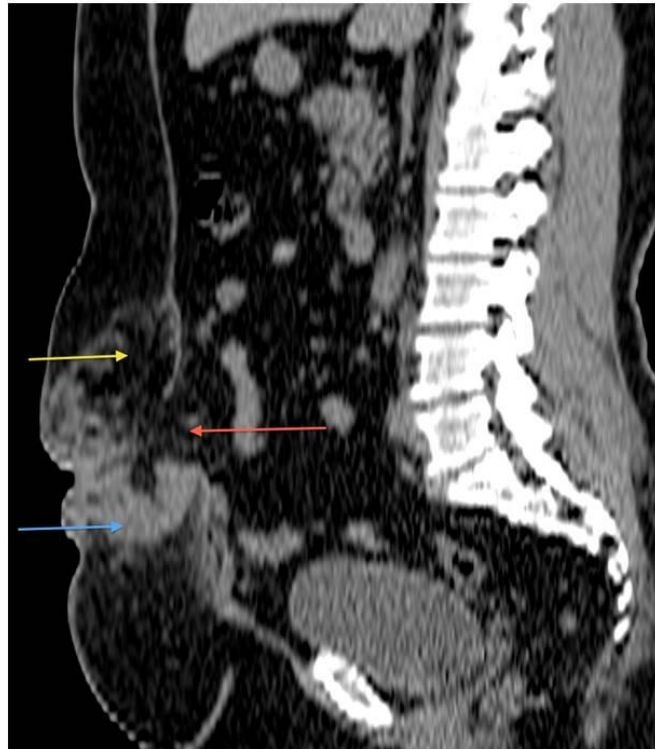
## Introduction

Umbilical hernia is a common disease detected in routine practice of General Surgery. It requires urgent operation when incarceration and strangulation occur [1, 2]. Hernia sac usually contains internal organs such as omentum, small and large bowels [1]. Rarely, myomatous uterus, pregnant uterus, Meckel's diverticulum, perforated acute appendicitis and endometriotic ovarian cysts may be present in the umbilical hernia sac [1, 3]. In addition, some intraabdominal malignancies, mostly adenocarcinomas (10%), have been reported to show umbilical metastasis as umbilical hernia rarely [1, 4] Herein, we report the first metastatic ovarian cancer that initially presented as an incarcerated and strangulated umbilical hernia in the literature, to the best of our knowledge.

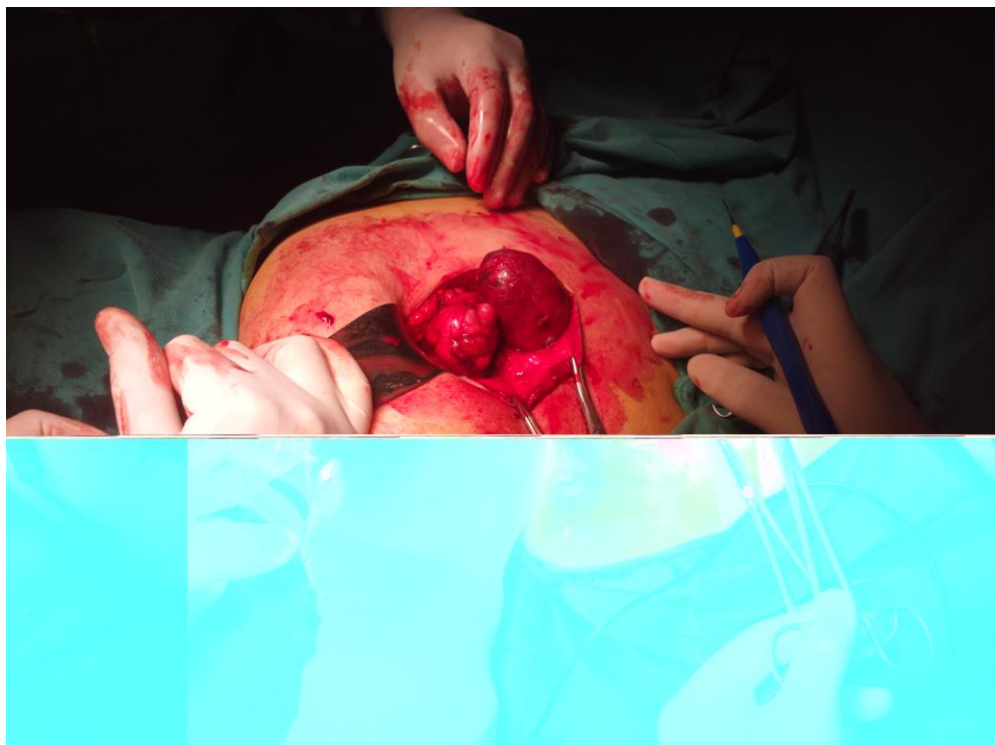
## Case Presentation

A 54 year-old female patient was admitted to the department of General Surgery with sudden abdominal pain developed around the umbilical mass that had been painless before and existed for 3-4 years. Nausea and vomiting accompanied the pain. On physical examination, a painful mass around the umbilicus about 6 to 7 cm in diameter showing tenderness and defense was detected. There was no tenderness, rigidity or rebound in other parts of the abdomen. Abnormal laboratory findings were as follows: WBC: 11.0 K/uL (normal value: 4.6-10.2 K/uL), CRP: 51.7 mg/L (normal value: 0-5 mg/L), urea 55 mg/dl (normal value: 16.6-48.5 mg/dl). Urgent ultrasound examination revealed a hernia sac about 9x2 cm in diameter that contained mesenteric fat and an ill-defined hypoechoic solid mass, and a small amount of fluid at umbilical and periumbilical area. Intravenous contrast-enhanced abdominal computed tomography revealed a defect of 4 cm at umbilicus and two hernia sacs partially associated with each other that extended to the skin and subcutaneous tissue (Figure 1). One of the hernia sacs contained mesenteric fat tissue and the other contained a small amount of mesenteric fat tissue mass as well as a solid mass. The hernia sacs were irreducible with Valsalva's maneuver. After performing the tests mentioned previously, the patient was operated urgently with median abdominal incision between upper and lower umbilical region. During operation, a solid mass about 10x5 cm was detected at umbilical region and an incarcerated and strangulated hernia sac contained omentum was seen (Figure 2-3). The solid mass and hernia sac were excised, and the fascia was repaired using a prolene mesh of 15x15 cm. A malignant tumor composed of solid or papillary structures infiltrating the adipose tissue was detected in the operation material under light microscope (Figure 4). Immunohistochemically, the tumor cells showed diffuse positivity for CK 7, WT-1, estrogen and progesterone receptors. Vimentin, CK 20 and TTF -1 were negative. Histopathological and immunohistochemical findings were compatible with metastasis of serous carcinoma originated from particularly ovary. After performing necessary pre-operative tests, the patient was re-operated. Total abdominal hysterectomy, bilateral salpingo-oophorectomy, pelvic and bilateral para-aortic lymph node dissection, omentectomy and sigmoid colon resection were performed. Serous carcinoma derived from the left ovary was detected histopathologically. Also, left fallopian tube was infiltrated with tumor. Extensive tumoral infiltration forming tumoral nodules were observed in mesentery as well as serosa of sigmoid colon and uterus. Right ovary and fallopian tube were tumor free. Serous carcinoma metastasis was detected in a right obturator lymph node. The tumor was stage IV according to the current TNM classification. The postoperative course was uneventful. She was discharged and referred to the department of Medical Oncology for chemotherapy. However she did not

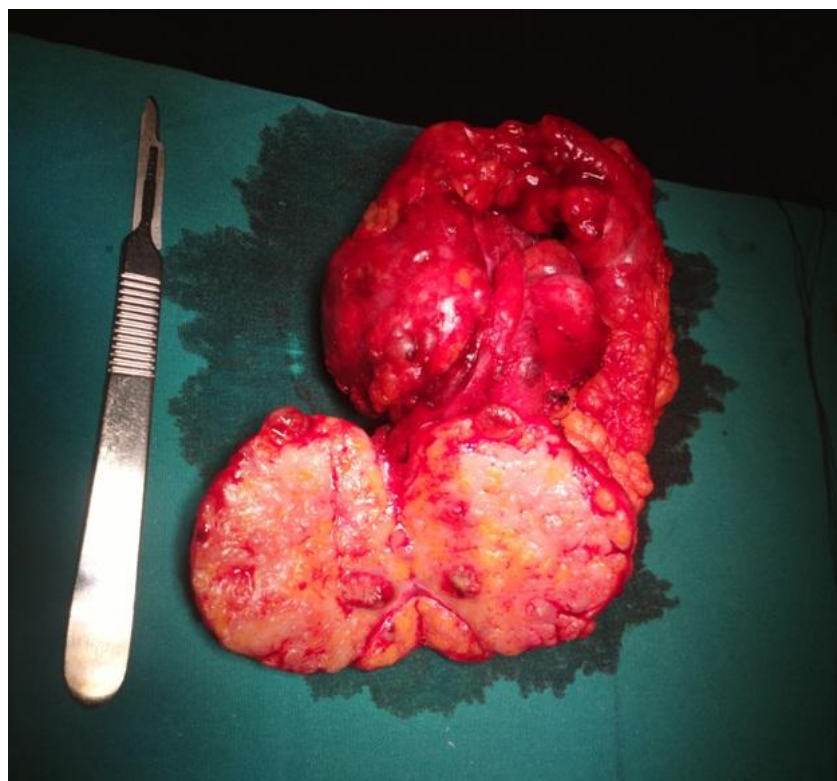
attended to control visits in our hospital, thus the data about clinical follow-up were not achieved.



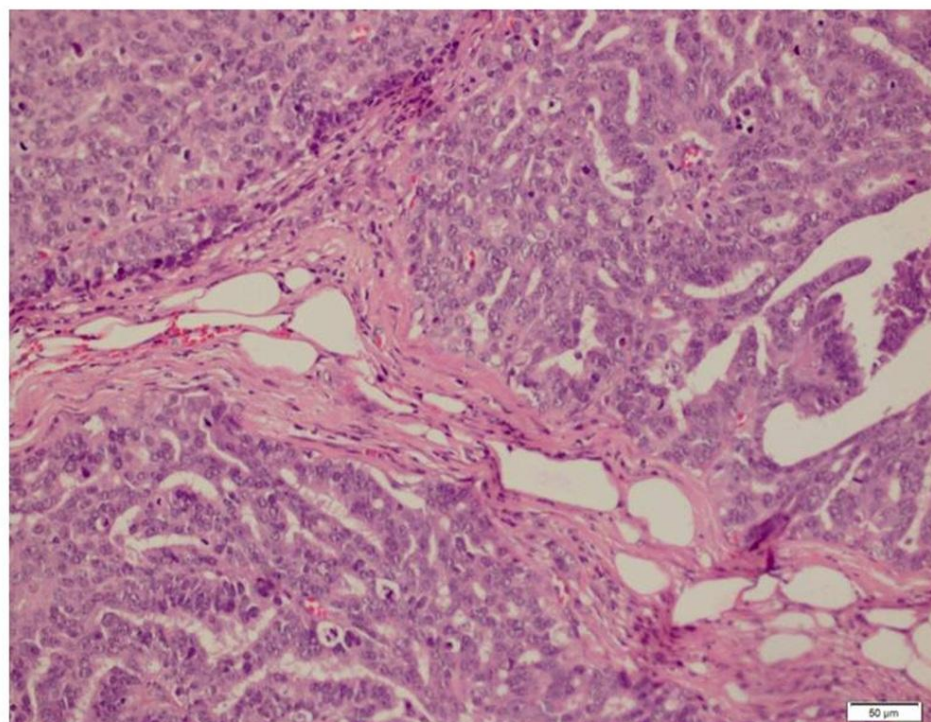
**Figure 1:** The photograph of abdominal CT showing the mass (*arrows*).



**Figure 2:** The photo of the operation showing tumoral mass and the omentum in the hernia sac.



**Figure 3:** The cut surface of the tumoral mass.



**Figure 4:** The microscopic photo of serous carcinoma composed of solid and papillary structures, (Hematoxylin and eosin stain, x200).

## Discussion

Serous carcinoma constitutes about 75% of surface epithelial-stromal carcinomas of the ovary. It is usually seen in elder women (mean age: 50 years). Approximately two-thirds of the patients with serous carcinoma of the ovary are diagnosed in advanced stage with distant metastases and show mostly poor prognosis [5]. Umbilical metastasis may be one of the clinical findings that favor progression of a known malignancy or may be the first sign of an unknown advanced tumor, similar to our case [6]. Umbilical metastasis is a rare clinical manifestation that usually develops a subcutaneous nodule named “Sister Mary Joseph’s nodule” [1, 6]. Lymphatic system, hematogenous (arterial and venous) spread and embryonic ligaments are suggested as the possible routes of metastatic tumor cells for reaching the umbilicus, however direct intraperitoneal spread seems to be the most favourable way in the literature [6]. A variety of intraabdominal tumors (squamous cell carcinoma of the uterine cervix, rectal adenocarcinoma, endometrial carcinoma and pancreatic carcinoma, etc.), and some extraabdominal tumors (eg. lung and breast carcinomas) have been reported to show umbilical metastasis as umbilical nodules rather than hernias [4, 7, 8]. However, our case presented as an umbilical hernia. In the literature, there are only some case reports about metastatic tumors that have been presented as umbilical hernia mostly without incarceration [1]. To the best of our knowledge, our case is the first case of ovarian serous carcinoma showing umbilical metastasis as an incarcerated and strangulated hernia in the literature.

## Conclusion

Although it is a rare event, it should be noted that incarcerated and strangulated umbilical hernias may contain metastatic tumors. Thus, careful exploration of the content of the hernia sac during operation, sending the whole operation material to the pathology laboratory are crucial for the definite diagnosis of those patients with unexpected malignancies in hernia sacs, as well as performing the necessary additional therapies promptly.

## Acknowledgements

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## References

1. Karabulut Z, Aydin O, Onur E, Celik NY, Moray G. Giant ovarian tumor presenting as an incarcerated umbilical hernia: A case report. *Journal of Korean medical science*. 2009, 24:539-541
2. Uludag M, Yetkin G, Demirel M, Citez B, Isgor A. Incarceration of umbilical hernia during pregnancy due to a sessile fibroid. *Hernia : the journal of hernias and abdominal wall surgery*. 2006, 10:357-359
3. Daoud FS. Incarcerated endometriotic ovarian cyst within paraumbilical hernia. *Journal of obstetrics and gynaecology : the journal of the Institute of Obstetrics and Gynaecology*. 2005, 25:828-829
4. Chapman GW, Jr., Abreo F, Thompson H. Squamous cell carcinoma of the cervix metastatic to the umbilicus. *Journal of the National Medical Association*. 1987, 79:1293, 1296-1297
5. Harlan LC, Clegg LX, Trimble EL. Trends in surgery and chemotherapy for women diagnosed with ovarian cancer in the united states. *Journal of clinical oncology : official journal of the American Society of Clinical Oncology*. 2003, 21:3488-3494
6. Palaniappan M, Jose WM, Mehta A, Kumar K, Pavithran K. Umbilical metastasis: A case series of four sister joseph nodules from four different visceral malignancies. *Current oncology (Toronto, Ont.)*. 2010, 17:78-81
7. Rahman MT, Nakayama K, Rahman M, Nakayama N, Ishikawa M, Katagiri A, Katagiri H, Ishibashi T, Iida K, Miyazaki K. Sister mary joseph's nodule associated with rare endometrial squamous cell carcinoma. *Archives of gynecology and obstetrics*. 2012, 286:711-715

8. Zhang Z, Wang J, Huang J, Yu X. Umbilical metastasis derived from early stage rectal cancer: A case report. *World journal of surgical oncology*. 2014, 12:82