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A Rare Cause of Massive Abdominal Distension: Giant Benign Cystic Mesothelioma of the Mesentery

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Abstract: ***Benign cystic mesothelioma (BCM) of the mesentery is an exceptionally rare intra- abdominal neoplasm of mesothelial origin. It commonly presents as a large cystic mass with nonspecific abdominal symptoms, making preoperative diagnosis challenging. We report a case of a 49-year-old female who presented with progressive abdominal distension and pain. Imaging revealed a giant multiloculated cystic mass. The patient underwent exploratory laparotomy with complete surgical excision. Histopathology and immunohistochemistry confirmed benign cystic mesothelioma. The postoperative course was uneventful with no recurrence on follow-up. Complete surgical excision remains the treatment of choice and offers excellent prognosis.***

Keywords: Benign cystic mesothelioma; Mesenteric cyst; Rare abdominal tumor; Case report; Surgical excision

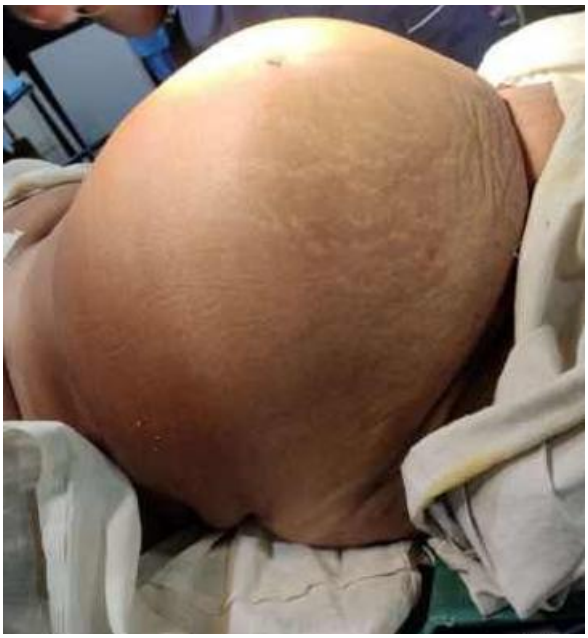
1. Introduction

Benign cystic mesothelioma is a rare peritoneal tumor arising from mesothelial cells, first described by Mennemeyer and Smith in 1979. It predominantly affects women and usually involves the pelvic peritoneum, while mesenteric involvement is exceedingly rare. Patients often present with nonspecific symptoms such as abdominal distension, pain, or constipation, leading to diagnostic difficulty. Radiological investigations help identify cystic lesions but are insufficient for definitive diagnosis. Histopathology supported by immunohistochemistry remains the gold standard. Complete surgical excision is the mainstay of treatment.

2. Case Presentation

A 49-year-old female with no known comorbidities presented with gradual lower abdominal distension for 15 days, associated with mild intermittent lower abdominal pain and constipation. There was no history of fever, weight loss, or altered appetite. Past surgical history included laparoscopic tubal ligation performed 25 years earlier.

On examination, the abdomen was distended with visible stretch marks and a normal umbilicus. A large ovoid mass extending from the epigastrium to the pelvis was noted. Palpation revealed a non-tender, firm mass measuring approximately 22 × 15 cm with smooth surface and well-defined margins. Percussion over the mass was dull.



3. Investigations

Ultrasonography revealed a large cystic mass with internal septations measuring 24 × 13 cm. Contrast-enhanced computed tomography demonstrated a well-defined multiloculated peritoneal cyst measuring 17 × 21 × 18.5 cm with prominent vascular channels along the inferior aspect.

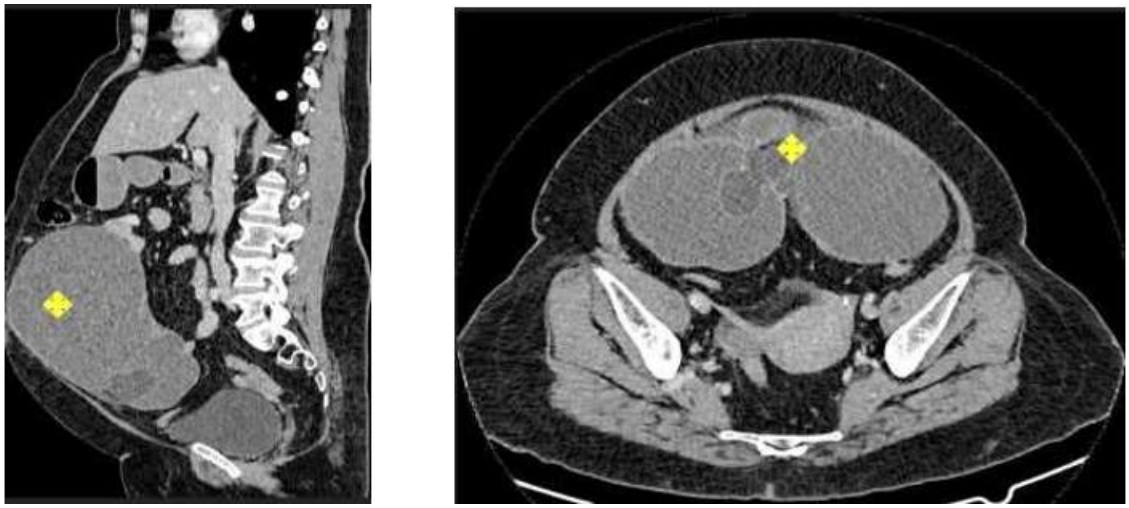
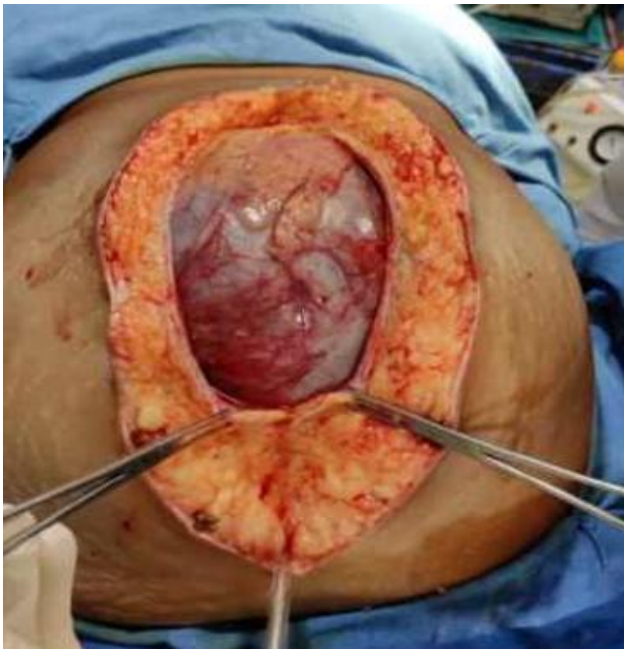


Figure 1: CT scan Whole abdomen

4. Surgical Management

An exploratory midline laparotomy was performed. Intraoperatively, a giant cystic mass extending from the epigastrium to the pelvis was identified. The cyst was carefully decompressed, yielding approximately 3,500 mL of dark brown fluid. No abnormal communication with adjacent organs was noted. Flimsy adhesions were gently released, and the cyst was completely excised. A negative suction drain was placed.



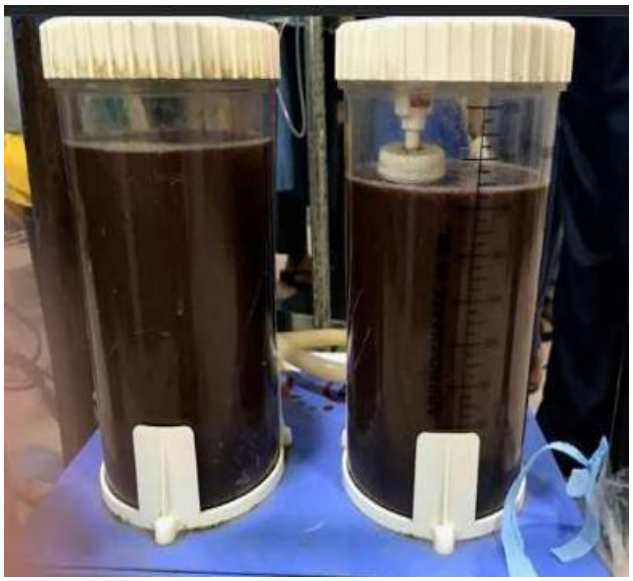


Figure 2: Intraoperative findings

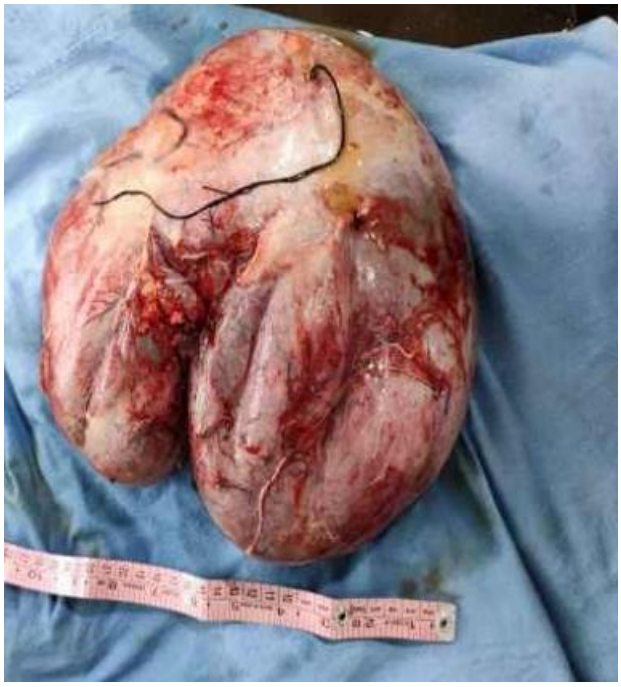


Figure 3: Excised specimen

Histopathology and Immunohistochemistry
Histopathological examination revealed a peritoneal simple mesothelial cyst consistent with benign cystic mesothelioma. On immunohistochemistry, tumor cells were positive for Vimentin, Total Keratin, and Ethidium Monoazide, and negative for CD31 and Factor VIII.

Table 1: Immunohistochemistry profile

IHC PANEL	
Vimentin	Positive
Total Keratin	Positive
Ethidium Monoazide	Positive
CD31	Negative
Factor VIII	Negative

5. Discussion

Benign cystic mesothelioma is a rare tumor with uncertain etiology. Proposed contributing factors include hormonal influence, prior abdominal surgery, and chronic peritoneal inflammation. The condition predominantly affects women and presents with nonspecific symptoms, often resulting in delayed diagnosis. Imaging studies aid detection but lack specificity. Differential diagnoses include mesenteric cysts, lymphangiomas, ovarian cystic tumors, and gastrointestinal stromal tumors. Definitive diagnosis relies on histopathology and immunohistochemistry. Complete surgical excision is the treatment of choice, as recurrence has been reported with incomplete resection.

6. Conclusion

Giant benign cystic mesothelioma of the mesentery is an exceptionally rare entity. A high index of suspicion is required due to its nonspecific presentation. Complete surgical excision provides excellent outcomes with minimal risk of recurrence.

Patient Consent
Written informed consent was obtained from the patient for publication of this case report and accompanying images.

Conflicts of Interest
The authors declare no conflicts of interest.

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