Benign multicystic peritoneal mesothelioma presenting as a ghost abdominal mass

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Benign multicystic peritoneal mesothelioma (BMPM) is a rare tumor with approximately only 130 cases reported in the literature \cite{1}. The etiology is unknown and controversy still remains regarding its neoplastic or reactive nature \cite{1}. We report a case of BMPM presenting as ghost abdominal mass. This case outlines the natural history of BMPM based on a particular clinical course and documented by morphological investigations.

Case presentation

A 84-year-old man with no previous medical or surgical history presented with a pain in the right iliac fossa (RIF) for over one month. He had an abdominal ultrasound examination in another institution, which showed a multiloculated cystic mass in the RIF measuring approximately 10 cm (Fig. 1). Three days before admission, the abdominal pain increased abruptly associated with hiccups. Physical examination revealed a normal temperature and the abdominal examination was unremarkable. The white blood cell count was normal (6400/mm\textsuperscript{3}) and the C-reactive protein serum level was 96.9 mg/l. Abdominal computed tomography (CT) showed a cystic, unilocular lesion of the omental bursa, measuring 63 mm associated with free peritoneal fluid between bowel loops and in Douglas pouch (Fig. 2) while the multiloculated cystic mass of the RIF previously documented by ultrasound disappeared. At this stage, the diagnoses of rupture of peritoneal hydatid cyst or pancreatic pseudocyst were considered. However hydatid serology was negative and the ascites puncture yielded citrine yellow liquid revealing normal lipase levels,

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with low albumin concentration (9 g/L) and absence of malignant cells. Colonoscopy and upper gastrointestinal endoscopy were normal. The patient has been lost from sight for one month. He consulted again complaining of a painful mass localized on the RIF. CT showed a multiloculated cystic mass in the RIF with peritoneal effusion in the Douglas pouch (Fig. 3).

During exploratory laparotomy, the peritoneal cavity was lined by translucent cystic formations of different sizes ranging from a few millimeters to 12 cm in the RIF (Fig. 4). Cytoreductive surgery was performed with an uneventful outcome. Histopathological examination of resected tissue showed multiple cysts with thin fibrous walls, which are lined by flattened mesothelial cells (Fig. 5). This aspect was consistent with BMPM. The patient had no recurrence after a follow-up of two years.

**Discussion**

Mesothelial tumors of the peritoneum include three pathological forms of different prognosis [1]. The benign adenomatoid tumor rarely relapses after surgical removal, the malignant peritoneal mesothelioma, which is associated with a very poor prognosis and BMPM, which is a benign lesion but expresses a high potential for locoregional extension and recurrence after surgery [1]. As showed in our case, the preoperative diagnosis of BMPM is difficult and several differential diagnoses must be considered such as cystic lymphangioma, endometriosis, cystic epithelial neoplasms of the ovaries and pseudomyxoma peritonei [2,3]. Magnetic resonance imaging (MRI) may be very helpful for making the diagnosis preoperatively by revealing multiloculated collections with moderate and somewhat heterogeneous enhancement on T2-weighted images explained by the

![Figure 1](image1.png)  
*Fig. 1. Abdominal ultrasonography shows large, multiloculated cystic mass in the right iliac fossa (white arrow).*

![Figure 2](image2.png)  
*Fig. 2. Abdominal CT in the transverse plane shows (A) cystic unilocular lesion of the omental bursa (white arrow) and (B) free peritoneal fluid between bowel loops (asterisk).*

![Figure 3](image3.png)  
*Fig. 3. Abdominal CT in the transverse plane shows a multiloculated cystic mass in the right iliac fossa (white arrows).*
cysts in the Douglas pouch, which is the lowest down areas of the peritoneum, is another argument in favor of this hypothesis [4,6]. The treatment of BMPM consists of cytoreductive surgery but some authors recommend associating hyperthermic intraperitoneal chemotherapy to reduce the risk of recurrence [4,7]. For our part, we think that cytoreductive surgery should be as complete as possible while avoiding cystic rupture, which is a source of postoperative recurrence.

In conclusion, intraperitoneal cystic lesions should suggest the diagnosis of BMPM. The treatment consists of cytoreductive surgery during which cystic rupture should be avoided whenever possible to presumably prevent postoperative recurrence.

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References