SAS Journal of Surgery
Abbreviated Key Title: SAS J Surg
ISSN 2454-5104
Journal homepage: https://www.saspublishers.com

OPEN ACCESS

Multiloculated Mesothelial Cyst: A Diagnostic Dilemma

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DOI: 10.36347/sasjs.2020.v06i11.002 | **Received:** 05.11.2020 | **Accepted:** 17.11.2020 | **Published:** 23.11.2020

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Abstract **Case Report**

Mesothelial cyst is a rare benign lesion of mesothelial origin. It is usually asymptomatic but may have non specific symptoms. So Accurate diagnosis and optimal management of this condition remains uncertain. ***Case Report:*** We report a 14-year-old boy, who presented with abdominal pain and lump. Magnetic Resonance Imaging (MRI) revealed a large well defined multiloculated lesion in retroperitoneum in anterior right pararenal space. The differential diagnosis included benign cystic lesion, lymphangioma, cystic teratoma and duplication cyst. A laparotomy was performed due to his symptoms and size of the cyst. Macroscopically, a 14 × 10 × 5 cm cystic lesion with necrotic fluid and multiple ridges was found. It was resected en bloc. Histology revealed a diagnosis of Mesothelial cyst. The patient recovered well and had no recurrence at 1-year follow-up. ***Conclusion:*** Because of rarity and nonspecific symptoms pre operative diagnosis was difficult. Treatment of choice is complete surgical excision.

Keywords: Mesothelial cyst, multiloculated, lymphangioma, cystic teratoma, duplication cyst, necrotic fluid, multiple ridges.

INTRODUCTION

Mesothelial cyst is a rare lesion attached to serosal surface of visceral organs. It was initially thought to be cystic lymphangioma, but electron microscopy revealed their origin from mesothelial cells [1]. Immunohistochemical markers like calretinin also distinguish mesothelioma from lymphangioma [2]. They are frequently seen in patients with previous abdominal surgery or pelvic inflammation.

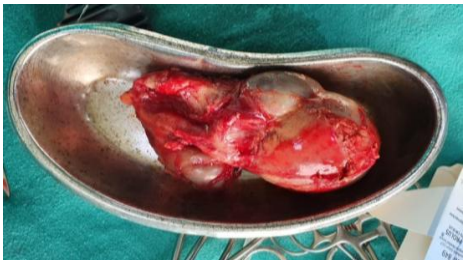
CASE REPORT

A 14-year-old boy presented with sudden onset of high intensity continuous pricking type of pain in central abdomen for 5 days, after which he noticed a lump of 10x4 cm in right paraumbilical region. No urinary, bowel or constitutional symptoms were present. On examination he was stable and afebrile, with 10 x 4 cm firm, immobile, non tender, well defined lump limited to right side of umbilical region. No other organomegaly or lymphadenopathy were present.

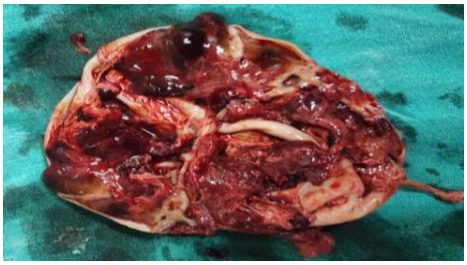
On Magnetic Resonance Imaging (MRI) there was a large well defined multiloculated lesion in retroperitoneum, in anterior right kidney and extending into right iliac fossa – 14x10x5 cm. It was hyper intense on T1 and T2 with no signal suppression suggestive of proteinaceous deposits. It was compressing proximal part of the right ureter leading to moderate hydroureteronephrosis. A provisional diagnosis of benign cystic lesion or lymphangioma or cystic teratoma was kept.

Exploratory laparotomy revealed a large (14 × 10 × 5 cm) necrotic fluid filled multiloculated sac adherent to third part of duodenum and right gonadal vessels. The gonadal vessels had to be ligated, and the cyst was separated from inferior venacava and renal vessels. Sharp dissection was needed to separate it from duodenum and paravertebral fascial layers. Intraoperative spillage of necrotic material occurred- this was contained and immediately lavaged. On cut section multiple ridge like projections with necrotic fluid was present. The patient recovered uneventfully and was discharged on postoperative day 3. He was doing well with no recurrence in 18 months follow up.

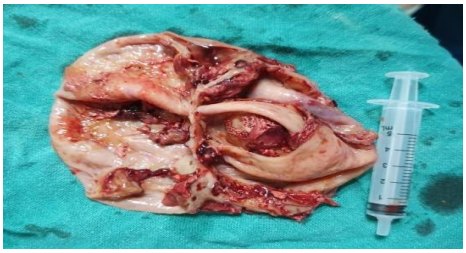
Histopathology revealed mesothelial cyst lined by a single layer of flattened cells with flattened nuclei and the cyst wall consisted of fibrous connective tissue. The cyst was confirmed as mesothelial by positive Immunohistochemical reactions using cytokeratin-, AE1/3-, WT1- and calretinin-specific antibodies.



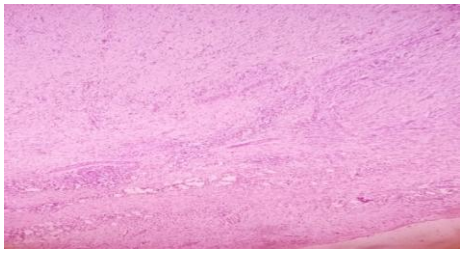
a) Multiloculated resected cystic lesion



b) Cut section showing ridges with necrotic material



c) Cut section showing septa



d) Photomicrograph showing cyst wall lined by flattened epithelium (H&E, 400x)

Fig-1: Gross and Microscopic picture of multiloculated mesothelial cyst

DISCUSSION

According to Perrot classification, mesothelial cysts include peritoneal simple mesothelial cyst (PSMC), benign cystic mesothelioma and malignant mesothelioma [3]. The size of PSMC ranges from few centimeters to upto 40cm [4]. They usually usually present with increasing abdominal girth, nonspecific abdominal pain, nausea and vomiting due to compression of surrounding structures. Lack of specific symptoms and rarity makes pre operative diagnosis difficult [5]. Clinical examination may show a painless compressible abdominal mass which is mobile transversely. It may be large simulating ascites or ovarian tumour. Complications like rupture, obstruction, infection, inflammation, torsion, hemorrhage or ascites can occur [6].

Mesothelial cyst occurs due to incomplete fusion of mesothelial lined peritoneal surfaces. So it occurs in small bowel, mesentery, mesocolon and omentum [7]. It occurs in children and young adults. Differential diagnoses include cystic neoplasms, lymphangioma, and cystic teratoma [8]. Various imaging modalities can visualize the lesion, but it is difficult to differentiate it from other intra abdominal pathologies [9].

A laparoscopic approach can also be used for excision [10]. However as cystadenocarcinoma is one of the differential diagnosis, spillage should be prevented. Therefore a low threshold for converting laparoscopy to open should be kept.

They are considered benign with excellent prognosis, but there is high recurrence rate [11]. Surgical intervention is best approach for complete removal; a recent study advocated intraperitoneal chemotherapy to reduce recurrence [12]. If mesothelial cyst found incidentally, complete surgical excision is to be done. This is due to small risk of malignancy and to exclude other differential diagnosis.

CONCLUSION

Mesothelial inclusion cysts remain a rare intra-abdominal pathology. We suggest that a safe approach is total en bloc resection, keeping the cyst intact whether this is performed laparoscopically or through open approach, and long term follow – up to assess for recurrence and/or neoplastic transformation.

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