TPM Vol. 32, No. S1, 2025
ISSN: 1972-6325
https://www.tpmap.org/

Open Access

PRIMARY RETROPERITONEAL MUCINOUS CYST: A RARE CASE REPORT IN A FEMALE PATIENT

DR. SINDUJA S[1], DR. SUDARSHAN P B[2], DR. SWARNA PRIYA[3]
[1]POSTGRADUATE, DEPARTMENT OF GENERAL SURGERY, SAVEETHA MEDICAL COLLEGE AND HOSPITAL, CHENNAI
[2]PROFESSSOR, DEPARTMENT OF GENERAL SURGERY, SAVEETHA MEDICAL COLLEGE AND HOSPITAL,
[3]READER, DEPARTMENT OF ORAL& MAXILLOFACIAL SURGERY , SREE BALAJI DENTAL COLLEGE & HOSPITAL, CHENNAI, INDIA

ABSTRACT
This case report presents the clinical course of a 40-year-old female who presented with abdominal fullness of insidious onset accompanied by a history of hypertension and prior laparoscopic ovarian cystectomy. Imaging studies, including ultrasound and contrast-enhanced CT, revealed a well-defined cystic lesion in the mesentery of the right iliac fossa abutting the ascending colon. Diagnostic laparoscopy revealed a retroperitoneal cyst located posterior to the appendix. The cyst was successfully excised intact using laparoscopic techniques, leading to uneventful postoperative recovery. Histopathological examination confirmed a fibrocollagenous cyst wall lined by a mucin-secreting epithelium.

Keywords: Retroperitoneal cyst, Cystadenoma, Fibrocollagenous

INTRODUCTION

Primary retroperitoneal mucinous cystadenoma (PRMC) is a rare tumour found in the retroperitoneum and primarily affects females. Since 1965, fewer than 100 cases of PRMC have been reported. The exact origin of PRMC is uncertain because there is typically no pre-existing epithelial tissue in the retroperitoneal area. Symptoms usually manifest as nonspecific abdominal pain caused by the mass effect of the tumour. In its early stages, PRMC often presents with no symptoms at all [1]. The diagnosis relies on pathological findings rather than radiological evidence. Hence, surgical intervention is essential for both diagnosis and treatment. Despite radiological indications, such as calcification and enhanced mural nodules suggesting malignancy, surgical resection of PRMC is increasingly favoured. While open surgery remains the standard treatment, successful laparoscopic resection cases have also been reported [2, 3].

We present a rare case report of a 40-year-old female who was diagnosed with PRMC in the abdominal region of the right iliac fossa.

CASE REPORT

A 40-year-old female presented to the outpatient department with a complaint of abdominal fullness that persisted for one month. The onset was insidious, with no specific aggravating or relieving factors associated with the abdominal discomfort. She had a known history of hypertension for the past 5 years and had undergone laparoscopic ovarian cystectomy for a right adnexal cyst. Upon examination, the abdomen was soft, with no palpable masses.

An ultrasound of the abdomen revealed a well-defined simple cyst measuring 8.6 × 4.0 × 5.9 cm in the mesentery of the right iliac fossa. Subsequent contrast-enhanced CT (CECT) of the abdomen showed a mildly enhancing, well-defined cystic lesion measuring 4.5 × 6.1 × 8.8 cm with a few calcifications in the right iliac fossa.

TPM Vol. 32, No. S1, 2025
ISSN: 1972-6325
https://www.tpmap.org/

Open Access

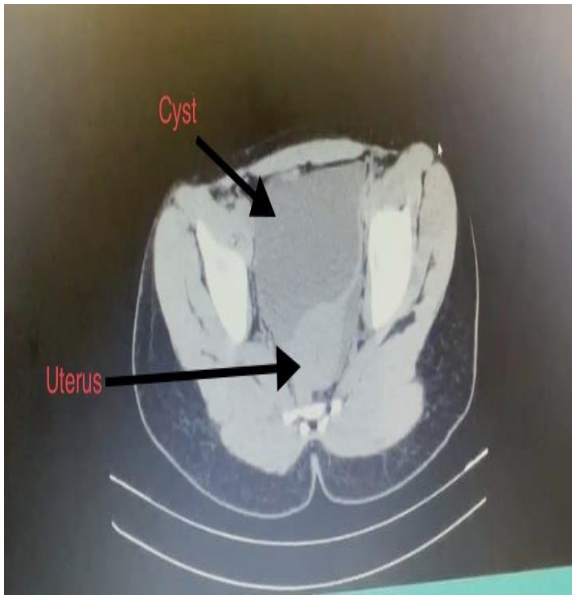

Figure 1: USG showcasing the location of the cysts
The cyst abutted and anteriorly displaced the ascending colon, with compressed fat planes.

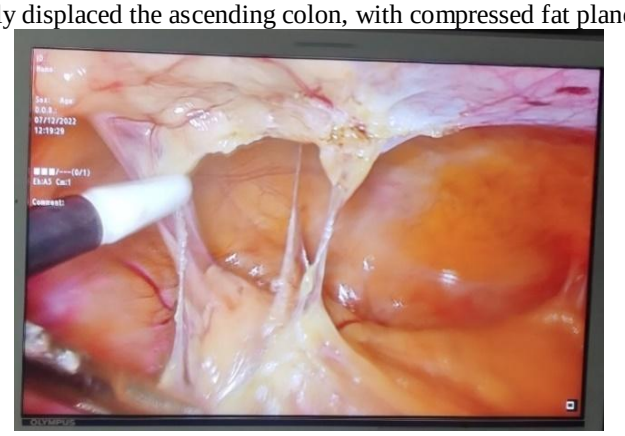

Figure 2: Laparoscopic image during surgical procedure

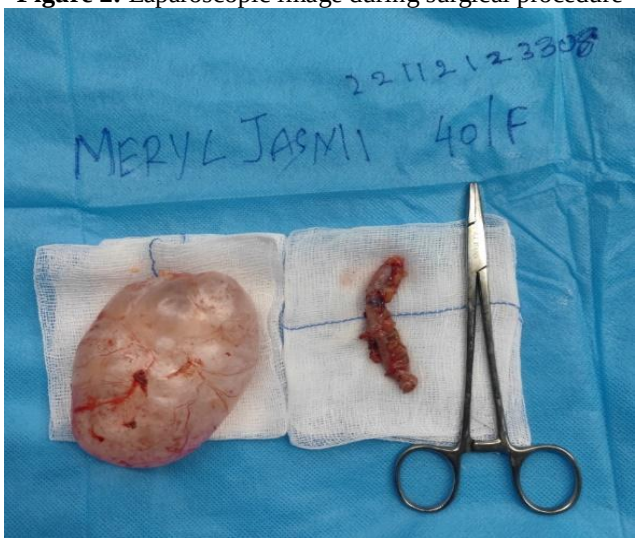

Figure 3: Laparoscopic removal of the cysts

Diagnostic laparoscopy revealed a uterus with bilateral ovaries (Figure 2). A cyst measuring 10 × 8 cm was found in the retroperitoneum posterior to the appendix, causing an anterior displacement of the appendix. The cyst was excised intact laparoscopically by dilating the port (Figure 3). The patient had a smooth and uneventful postoperative recovery.
Histopathological examination of the excised cyst revealed a fibrocollagenous cyst wall lined by cuboidal epithelium to the low columnar mucin-secreting epithelium.

DISCUSSION

Primary retroperitoneal mucinous cystadenoma is a rare clinical entity with no definitive incidence reported in the literature. The retroperitoneal space, which is expansive and surrounded by various anatomical structures, allows the growth of retroperitoneal cystic lesions without causing significant symptoms for an extended period. As a result, these lesions often present with vague symptoms or pressure effects on the neighbouring organs [3].
Retroperitoneal masses can encompass various entities, including lymphocele, pancreatic pseudocyst, cystic lymphangioma, and malignant tumours such as cystic teratoma, cystic mesothelioma, and pseudomyxoma retroperitoneum. It is crucial to distinguish primary retroperitoneal mucinous cystadenoma (PRMC) from tumours originating from ovarian or renal tumours. Classifying retroperitoneal masses can be challenging; however, a practical approach involves categorising them as either solid or cystic. Further subdivisions include distinguishing between neoplastic and non-neoplastic cystic tumours. Neoplastic cystic tumours can be classified into three pathological types: benign cystadenoma, borderline cystadenoma containing foci of proliferative epithelial cells with borderline malignancy, and cystadenocarcinoma [2, 3].
The histogenesis of PRMC raises questions due to the absence of epithelial cells in the retroperitoneum. Understanding the histological and pathological characteristics of retroperitoneal masses is essential for an accurate diagnosis and appropriate management.
Two main hypotheses have been proposed regarding the histogenesis of primary retroperitoneal mucinous cystadenomas (PRMC). First, PRMCs are believed to originate from heterotopic ovarian tissue because of their resemblance to ovarian mucinous cystadenomas. This theory is supported by the presence of oestrogen receptor positivity in the stromal cells of PRMCs. Second, it is suggested that these tumours arise from invagination of the peritoneal mesothelium, which becomes entrapped and undergoes mucinous metaplasia, leading to cyst formation. Paraskevakou et al. reported a rare case with two cysts of PRMC which was successfully treated with laparoscopic surgical removal [4]. Mueller C.L.'s innovative laparoscopic technique, as reported in an interesting case report, involves placing a cystic mass into an endo bag while still inside the abdominal cavity and then aspirating the cyst through a 15 mm trocar site. This approach aims to prevent conversion to an open procedure and reduce the risk of seeding cystic contents, which can lead to potential complications [5].
This case demonstrates the presentation, diagnosis, and laparoscopic management of mesenteric cysts. The patient presented with nonspecific symptoms, highlighting the importance of including mesenteric cysts in the differential diagnosis of abdominal complaints. Ultrasound effectively identified the cyst, and CECT provided further details regarding its characteristics and location. Laparoscopy is a minimally invasive approach for definitive diagnosis and complete surgical excision. Histopathological confirmation of a benign cyst ensures a favourable prognosis.

CONCLUSION

This case highlights the importance of considering laparoscopic approaches for the management of retroperitoneal cystic lesions, especially in cases in which accurate diagnosis and complete excision are crucial. The successful outcome in this patient underscores the potential benefits of minimally invasive surgical techniques in reducing morbidity and improving recovery time. It is essential to surgically remove retroperitoneal cystic lesions and conduct histopathological evaluation to rule out the risk of recurrence.

REFERENCES

1. Lee SY, Han WC. Primary retroperitoneal mucinous cystadenoma. Ann Coloproctol 2016;32:33. https://doi.org/10.3393/ac.2016.32.1.33.

2. Lee SE, Oh HC, Park Y-G, Choi YS, Kim MK. Laparoscopic excision of primary retroperitoneal mucinous cystadenoma and malignant predicting factors derived from literature review. Int J Surg Case Rep 2015;9:130–3. https://doi.org/10.1016/j.ijscr.2015.02.050.
3. Afzal Z, Stupalkowska W, Mahler-Araujo MB, Bowden D, Davies RJ. A case of successful surgical management of primary retroperitoneal mucinous cystadenoma. J Surg Case Rep 2020;2020. https://doi.org/10.1093/jscr/rjaa045.
4. Paraskevakou H, Orfanos S, Diamantis T, Konstantinidou A, Patsouris E. Primary retroperitoneal mucinous cystadenoma. A rare case with two cysts and review of the literature. Hippokratia 2014;18:278. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4309152/
5. Mueller CL, Fried GM. Emerging technology in surgery: informatics, robotics, electronics. Sabiston Textbook of Surgery: The Biological Basis of Modern Surgical Practice. 20th ed. Philadelphia, PA: Elsevier. 2017:393-406.
https://scholar.google.com/scholar?hl=en&as_sdt=0%2C5&q=4.%09Mueller+C.L.%2C+Fried+G.M.+Emerging+technology+in+surgery%3A+informatics%2C+electronics%2C+robotics.+In%3A+Townsend+C.M.+Jr%2C+Beauchamp+R.D.%2C+Evers+B.M.%2C+Mattox+K.L.%2C+editors.+Sabiston+Textbook+of+Surgery.+Elsevier%3B+Philadelphia%3A+2017.+pp.+393%E2%80%93406&btnG=