ORIGINAL RESEARCH PAPER

General Surgery

ECHOES OF EMBRYOLOGY: UNVEILING THE MYSTERY OF MESENTERIC UROGENITAL CYST

KEY WORDS: Mesenteric urogenital cyst; Rare abdominal cyst; Laparoscopic cystectomy; Embryological cyst; Müllerian duct remnant; Cystic abdominal mass

Prof. Dr. B. Santhi MS, DGO - Professor And Director, Institute Of General Surgery, Madras Medical College, Chennai.

Dr Balaji Arun MS (general surgery), Assistant Professor, Institute Of General Surgery, Madras Medical College, Chennai.

Dr Karthikeyan R Junior Resident -3, Institute Of General Surgery, Madras Medical College, Chennai.

ABSTRACT

Mesenteric urogenital cysts are rare congenital anomalies derived from embryonic remnants of the urogenital system. They present a diagnostic challenge due to their variable and non-specific clinical manifestations. We report a rare case of a large mesenteric urogenital cyst in a 41-year-old female presenting with isolated abdominal distension, successfully treated by laparoscopic excision. This report includes clinical findings, diagnostic workup, intraoperative observations, and histopathological confirmation.

INTRODUCTION

Mesenteric cysts of urogenital origin are exceedingly rare entities, with an estimated incidence of 1 per 250,000 hospital admissions. Only 820 cases were reported between 1500 and 1900. These cysts often arise from the remnants of Wolffian or Müllerian ducts and are commonly discovered incidentally during imaging or surgery. Their embryological origin, variable presentation, and differential diagnosis make them a subject of considerable interest in abdominal pathology.

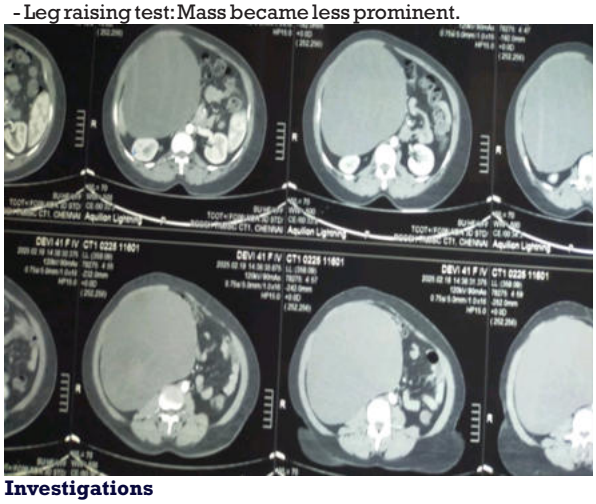
CASE REPORT

Patient Profile

Age / Gender	41-year-old female
Occupation	Daily wager
Chief Complaint	Right-sided abdominal distension
Duration	6 months
Menstrual History	Regular cycles, P2L2, last childbirth 20 years ago
Vitals / Blood work	Within normal limits

Clinical Presentation

- Abdominal distension: Gradual, progressive.
- Other symptoms: None.
- Abdominal examination:
- Palpable irregular mass (20x20x17 cm) in the right lumbar and right hypochondrium extending to epigastrium and right iliac fossa.
- Surface: Smooth, Consistency: Firm, Mobility: Restricted, Tenderness: Absent.
- Leg raising test: Mass became less prominent.



Investigations

CECT Abdomen Findings

- Lesion size: 17x17x20 cm.
- Characteristics: Non-enhancing cystic lesion with loculations.
- Location: Pericolic mesentery around ascending colon.
- Mass effect: Displacing ascending colon and hepatic flexure.
- Provisional diagnosis: Mesenteric cyst / cystic lymphangioma.

Diagnostic Approach Summary

Modality	Finding	Role
USG	Initial detection of cystic lesion	Screening
CECT	Defining origin and extent	Diagnostic
MRI	(optional) Further tissue characterization	Advanced imaging
Histopathology	Ciliated columnar epithelium confirming urogenital origin	Definitive

Surgical Management

Intraoperative Findings

- Large cystic mass in the right lumbar, right hypochondrium, and right iliac regions.
- Origin: Right lateral abdominal wall, extending retroperitoneally.
- Transverse colon displaced to left.
- Solid organs: Normal.

Surgical Procedure

- Laparoscopic cystectomy performed.
- 2.5 liters of chocolate-colored fluid aspirated.
- Cyst wall dissected free and delivered through small suprapubic incision.

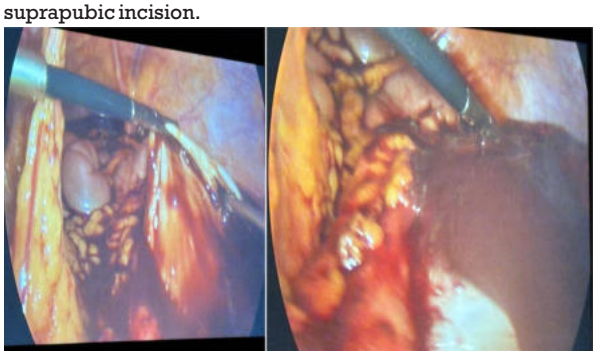


Figure: Intra-operative Picture Of Laparoscopic Cystectomy

Histopathological Examination

Lining: Ciliated columnar epithelium-consistent with urogenital cyst of Müllerian/Wolffian duct origin.

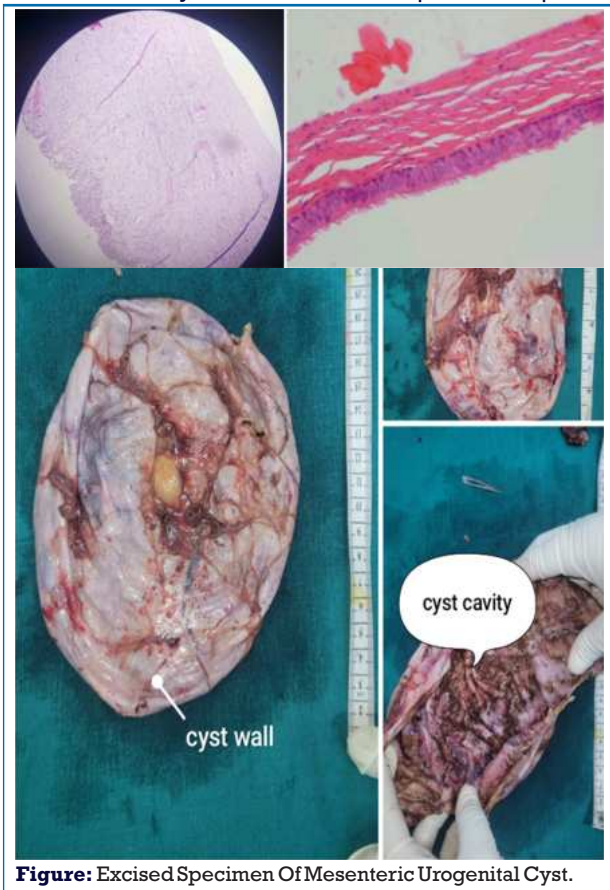


Figure: Excised Specimen Of Mesenteric Urogenital Cyst.

DISCUSSION

Embryological Basis

Urogenital cysts arise from remnants of Wolffian or Müllerian ducts.

Common locations include:

- Ileal mesentery
- Omentum
- Mesocolon
- Retroperitoneum

Types of Urogenital Cysts

Types Of Urogenital Cysts

Type	Origin
Pronephric	Primitive kidney remnant
Mesonephric	Wolffian duct
Metanephric	Final renal tissue precursor
Müllerian	Paramesonephric duct

Clinical Spectrum

Presentation	Frequency
Asymptomatic (incidental)	Common
Abdominal pain	Occasional
Palpable mass	Present in this case
Bowel obstruction	Possible with large cysts
Secondary infection/rupture	Rare

Differential Diagnosis

Condition	Key Differentiators
Lymphatic mesenteric cyst	Chylous content, thin wall
Enteric duplication cyst	Presence of GI mucosa
Omental cyst	Freely mobile, omental origin
Hydatid cyst	Calcified wall, hydatid sand
Cystic teratoma	Solid components, calcifications

Conflict Of Interest

The authors declare no conflicts of interest related to this manuscript.

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CONCLUSION

Mesenteric urogenital cysts are an important differential diagnosis for abdominal cystic masses. A combination of imaging and histopathology is essential for diagnosis. Laparoscopic excision remains the treatment of choice, with excellent prognosis and minimal recurrence if the cyst is completely removed.

Key Learning Points

- Mesenteric urogenital cysts should be considered in cases of abdominal cystic lesions.
- High-quality imaging helps plan surgical management.
- Complete excision is critical to prevent recurrence.
- Histopathology remains the gold standard for definitive diagnosis.

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