Laparoscopic Management of a Giant Paratubal Cyst: A Case Report

Sadia Khan[1], Ismat Batool[2], Nighat Naheed[3], Hina Saleem[4], Arshia Kanwal[5], Ayesha Javed[6]

Abstract

Summary: Large paratubal cysts are uncommon benign adnexal lesions that can closely resemble ovarian cysts on both clinical and radiologic assessment. Their laparoscopic excision can be technically demanding, particularly when fertility preservation is desired. We describe a 24-year-old woman who presented with gradually increasing abdominal distension and right lower abdominal pain. Imaging revealed a 25 × 15 × 10 cm right-sided adnexal cyst with the ovary draped over its surface, suggesting a paratubal origin. All tumor markers were within normal limits. Laparoscopic cystectomy with controlled decompression was carried out, and all pelvic organs were preserved. Histopathology confirmed a benign paratubal cyst. The postoperative course was smooth, and the patient was discharged the next day. This case demonstrates that, with careful preoperative evaluation and meticulous surgical technique, laparoscopy can be safely and effectively used even for very large paratubal cysts.

Keywords: Paratubal cyst, Broad ligament cyst, Laparoscopic cystectomy, Giant adnexal mass, Fertility preservation.

Introduction

Most adnexal masses originate from the ovary, but a small fraction arise from adjacent structures such as the fallopian tube or broad ligament [1]. Paratubal cysts account for roughly 10 % of all adnexal lesions [2]. They are believed to arise from mesothelial inclusions or remnants of the Wolffian or Müllerian ducts [3]. Typically, these cysts are small and asymptomatic, but in rare cases they can enlarge considerably, leading to abdominal distension and being mistaken for ovarian tumors [2,3]. Managing such large cysts laparoscopically can be challenging because of limited working space and the risk of rupture [4]. We present a rare case of a giant paratubal cyst managed successfully through laparoscopy at a tertiary care center

Case Presentation

A 24-year-old unmarried, nulliparous woman presented with a one-year history of right-sided lower abdominal pain and gradually increasing abdominal distension over six months. Initially, she was treated for a presumed urinary tract infection after being misdiagnosed with bladder distension by a general practitioner. Her symptoms persisted, prompting referral to the Department of Obstetrics and Gynecology, Benazir Bhutto Hospital (BBH), Rawalpindi.

Her past medical and surgical history was unremarkable, and her menstrual cycles were regular. On examination, she was hemodynamically stable, with a BMI of 23 kg/m². Abdominal inspection revealed a distended abdomen with an everted umbilicus. Palpation showed a large, soft, cystic, mobile, and non-tender mass extending up to the xiphisternum. (Figure 1)

Figure 1: Distended abdomen with an everted umbilicus

Routine laboratory investigations, including complete blood count and renal and liver function tests, were normal. Tumor markers were within reference ranges: CA-125 = 10 U/mL, CEA = 0.9 ng/mL, AFP = 3.6 ng/mL, and β-hCG < 0.2 mIU/mL.

Contributions:
SK IB NN HS AK AJ - Conception, Design
SK IB NN HS AK AJ - Acquisition, Analysis, Interpretation
SK IB NN HS AK AJ - Drafting
SK IB NN HS AK AJ - Critical Review

All authors approved the final version to be published & agreed to be accountable for all aspects of the work.

Conflicts of Interest: None
Financial Support: None to report
Potential Competing Interests: None to report

Institutional Review Board Approval
Benazir Bhutto Hospital, Rawalpindi

Review began 01/11/2025
Review ended 26/01/2026
Published 31/01/2026

How to cite this article: Khan S, Batool I, Naheed N, Saleem H, Kanwal A, Javed A. Laparoscopic Management of a Giant Paratubal Cyst: A Case Report. JRMC. 2026 Feb. 14;1(1).

https://doi.org/10.37939/jrmc.v1i1.3191

Ultrasonography demonstrated a unilocular cystic mass in the right adnexa measuring approximately 29 × 17.6 × 8.7 cm. MRI revealed a large, thin-walled, well-defined right adnexal cyst measuring 25 × 15 × 10 cm, displacing the uterus to the left. The right ovary appeared draped around the cyst, suggesting a paratubal origin. (Figure 2)

Figure 2: Axial & sagittal T2WI precontrast coronal post contrast T1WI

After appropriate preoperative counseling, a laparoscopic cystectomy was performed using the open umbilical entry technique. Two 5 mm accessory ports were inserted under direct vision. Intraoperatively, the pelvic organs were poorly visualized initially due to the large size of the cyst, which made identification of the contralateral adnexa, uterus, bowel, and major pelvic vessels difficult.

Controlled decompression was achieved by aspirating approximately 4 liters of clear fluid, which significantly improved visualization. Following decompression, the uterus, left fallopian tube, and ovary appeared normal and healthy. The right ovary was visualized separately, and the right fallopian tube was stretched over the cystic mass. The cyst was identified as arising from the right broad ligament, consistent with a paratubal cyst.

The ureter and internal iliac artery were clearly identified and carefully preserved throughout the procedure (Figure 3). The cyst wall was gradually freed from surrounding structures by meticulous dissection and counter-traction. One of the 5 mm accessory ports was converted to a 10 mm port to facilitate safe retrieval of the specimen, with residual cyst fluid aspirated to allow controlled decompression. The cyst was completely excised while preserving the right ovary, fallopian tube, and all vital structures. (Figure 4,5). The patient remained hemodynamically stable throughout the procedure and postoperative period and was discharged the following day in good condition.

Histopathology:

Grossly, the specimen consisted of a thin-walled, unilocular cyst containing clear straw-colored fluid. Microscopically, the cyst wall was lined by a single layer of cuboidal to flattened epithelial cells supported by fibrous stroma. There was no atypia, and no ovarian tissue was identified. (Figure 6) These findings were consistent with a benign paratubal cyst of the broad ligament.

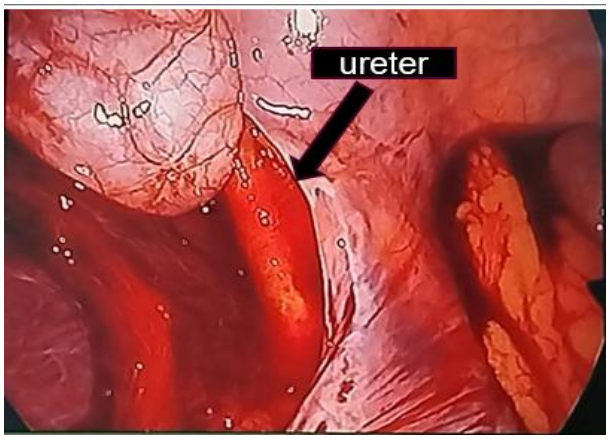

Figure 3: Identification of the Ureter

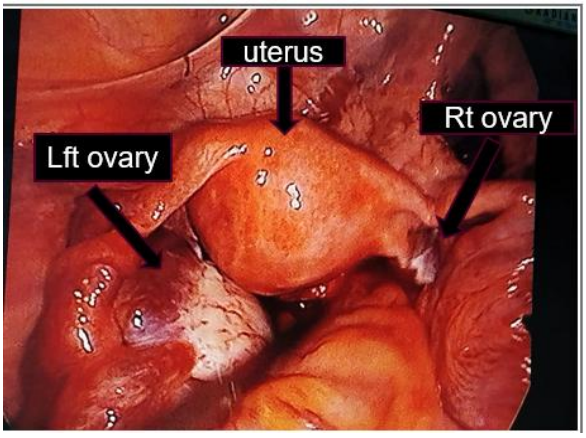

Figure 4: Identification of Uterus and Ovaries

Discussion

Paratubal cysts are typically small, but rarely they can reach massive dimensions, mimicking ovarian cysts on clinical and imaging evaluation [5]. The nonspecific presentation—abdominal distension, discomfort, or urinary symptoms—usually results from the compressive effect of the expanding cyst [6]. It is notable that only about one in fifteen paratubal cysts are correctly diagnosed before surgery [7]. MRI can aid in diagnosis, as the ovary appearing draped over the cyst is a helpful distinguishing feature [6,7].

Laparoscopic removal of such large cysts requires technical adjustments and careful planning. The open entry method reduces the risk of visceral or vascular injury, while decompression under direct visualization minimizes the chance of rupture or spillage. Identification of the ureter and major vessels during dissection is essential for safety [4,7].

Figure 5: Paratubal Cyst

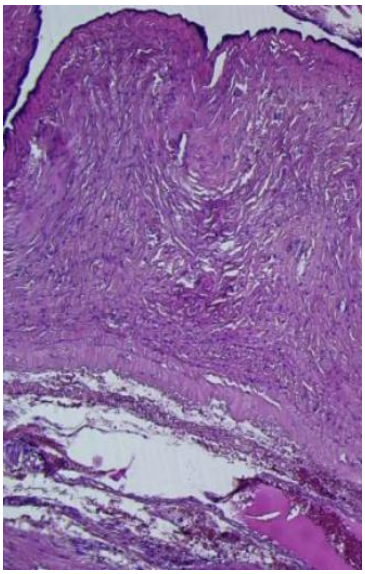

Figure 6: Histopathology of Cyst

A systematic review by Stefanopol and colleagues identified only 17 published cases of giant paratubal cysts, with few managed laparoscopically [8]. The largest paratubal cyst previously reported from Pakistan measured 10 × 8 cm and was excised via laparotomy [9]. To the best of our knowledge, the present case with a cyst measuring 25 × 15 × 10 cm managed entirely through laparoscopy ranks among the largest successfully treated minimally invasively in the country. This reinforces the view that cyst size alone should not preclude laparoscopic management when expertise and appropriate facilities are available.

Conclusion

Although giant paratubal cysts are uncommon, they should be included in the differential diagnosis of large adnexal masses. When tumor markers are normal and imaging suggests a benign nature, laparoscopy offers a safe, fertility-preserving, and minimally invasive option even for very large cysts. Successful outcomes depend on adequate preoperative assessment and surgical precision.

Author Information

1. Professor/HOD, Gynae & Obs, Benazir Bhutto Hospital, Rawalpindi 2,3,4. Assistant Professor, Gynae & Obs, Benazir Bhutto Hospital, Rawalpindi 5. Post Graduate Trainee, Gynae & Obs, Benazir Bhutto Hospital, Rawalpindi 6. Senior Registrar, Gynae & Obs, Benazir Bhutto Hospital, Rawalpindi.
Corresponding author: Dr. Arshia Kanwal, arshiakanwal348@gmail.com

References

1. Washington C, Gunderson CC, Mannel RS. Adnexal Masses. In: DiSaia and Creasman Clinical Gynecologic Oncology. 2022:229.
2. Butureanu TA, et al. Extremely rare case of a giant paratubal cyst coexisting with a mucinous cystadenoma treated laparoscopically—a case report and literature review. Reports (MDPI). 2025;8(3):106.
3. Romeo P, et al. Minimally invasive management of a giant paratubal cyst in an adolescent female: case report and literature review. Front Pediatr. 2022;10:1080797.
4. Archer S, et al. Surgical management of a giant paratubal cyst: case report and literature review. Ann Pediatr Surg. 2023;19(1):248.
5. Almahmeed E, et al. Giant paratubal cyst mimicking mesenteric cyst. Case Rep Surg. 2022;2022:4909614.
6. Hauser A, et al. The fallopian tube and its pathology: paratubal cysts, tubal torsion, and pelvic inflammatory disease. Semin Pediatr Surg. 2025;151540.
7. Tjokroprawiro BA. Huge paratubal cyst: a case report and literature review. Clin Med Insights Case Rep. 2021;14:11795476211037549.
8. Stefanopol IA, et al. Clinical, imaging, histological and surgical aspects regarding giant paraovarian cysts: a systematic review. Ther Clin Risk Manag. 2022;18:513–522.
9. Bilges K, Arab QR. Twisted right fimbrial cyst (paraovarian cyst). J Surg Pak. 2009;14(4):182–183