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## A giant retroperitoneal paraovarian cyst: A rare case report

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### Abstract

Paraovarian cysts are fluid-filled swellings that develop within the broad ligament of the uterus. When their diameter exceeds 15 cm, they are referred to as “giant” cysts. These cysts usually cause symptoms because of the pressure they exert on nearby pelvic organs or when complications arise. Although imaging modalities such as ultrasonography, CT, and MRI help in evaluation, the exact site of origin of very large cysts often becomes clear only during surgery. This report aims to discuss and present updated information regarding the diagnosis, histopathological features, and management of a giant paraovarian cyst in a 53-year-old postmenopausal woman.

**Keywords:** Paraovarian cyst, retroperitoneal cyst, postmenopausal female, aberrant müllerian duct remnant, paramesonephric origin

### Introduction

- Aberrant Müllerian duct remnants in the retroperitoneum can develop into Müllerian cysts, potentially growing in response to estrogenic stimulation. Hormonal therapy for menstrual irregularities has been linked to their development.
- Incidence of a paraovarian cyst presenting as a retroperitoneal cyst is extremely rare

### Case report

A 53-year-old postmenopausal woman, P1L1, presented with left-sided abdominal pain and vaginal bleeding. Abdominal examination revealed a 10x10 cm mass on the left side. On per vaginal examination, the uterus was anteverted, normal in size, with a mass palpated in the left fornix measuring 15x12 cm. Routine blood tests were normal. Pelvic ultrasound showed a well-defined anechoic cystic lesion (12.7x12.2x16.5 cm, 1346 cc) in the left adnexa, adjacent to the left ovary, extending upwards to the paraumbilical region, displacing bowel loops, suggestive of a benign etiology. CECT showed hypodense, non-enhancing lesion of size approx. 16x12 x 10 cm (960cc) in the left adnexal region from which ovary is not separately visualised. MRI confirmed a large, oval, non-enhancing, thin-walled cyst (17x12x11 cm), arising from the left ovary, extending to the L2 vertebral level and abutting the bowel. Tumor markers were normal, and a negative Pap smear was reported. D&C showed no dysplasia or malignancy. Intraoperatively, a single large cyst of size 18x16x12cm originating from the left paraovarian region was seen extending beneath the descending colon into the retroperitoneal space, reaching up to the left subcostal margin, laterally abutting the abdominal wall, medially to the vertebral column, and posteriorly to the psoas fascia. The uterus and bilateral ovaries were normal. The patient underwent cystectomy, total abdominal hysterectomy, and bilateral salpingo-oophorectomy. Histopathology confirmed the cyst as a benign serous cyst of paramesonephric origin.

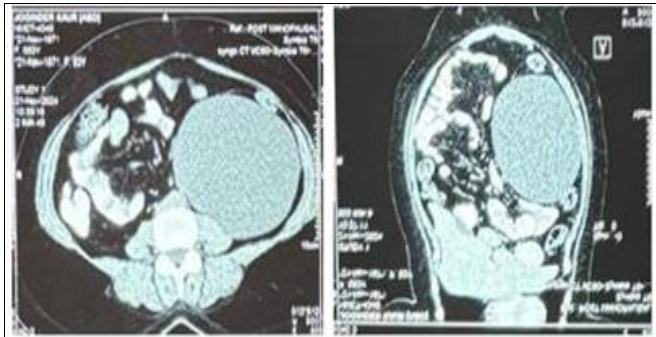
### Discussion

Para ovarian cysts are said to originate from the mesothelium of the broad ligament in 68% of cases, remnants of the paramesonephric duct in 30% of cases, and from the mesonephric duct remnants in the remaining 2% of cases <sup>[1, 2]</sup>. Paraovarian cysts have been reported in females of all age groups <sup>[2]</sup>, though the reported incidence is higher in reproductive-age females <sup>[2, 3]</sup>. More than half of Para ovarian cysts are misdiagnosed as ovarian cysts, tubal cysts, peritoneal inclusion cysts and even mesenteric cysts <sup>[1]</sup>. Magnetic resonance imaging and CECT can also

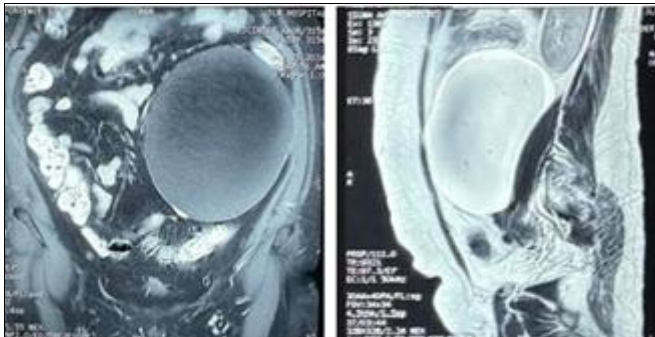
be used as modalities to better delineate the origin and nature of an adnexal mass [4].

Paraovarian cysts can range from small, symptom-free lesions to larger ones that cause discomfort or pain due to their mass effect. Complications such as torsion, hemorrhage, rupture, or neoplastic transformation within the cyst have been infrequently documented. [5, 6]. Although cysts of exceptionally large size are generally benign, a thorough diagnostic evaluation including imaging studies, tumor marker assessment, and consultation

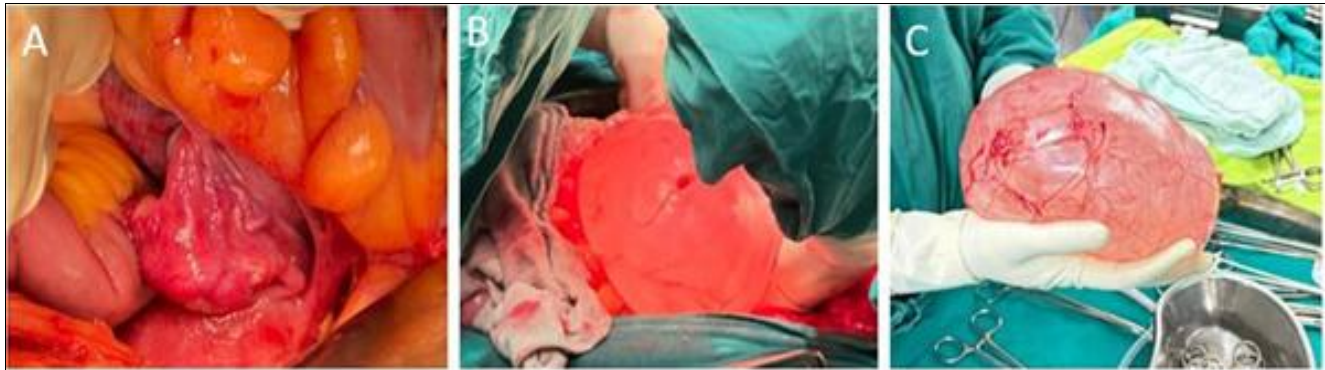
with an oncologist is recommended to rule out malignancy [7]. In general, conservative management is recommended for paraovarian cysts measuring less than 5 cm in diameter [8]. However, surgical removal remains the preferred treatment approach for cysts that are large, show suspicious features suggestive of malignancy, or are complicated by rupture or torsion.



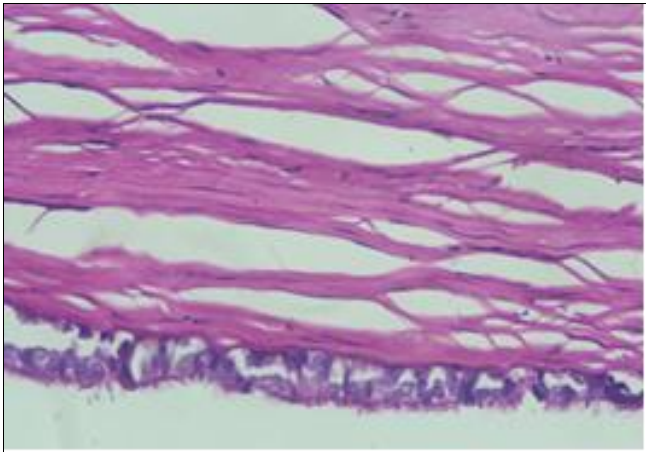
**Fig 1:** CECT showing hypodense, non-enhancing lesion of size approx. 16x12x10cm (960cc) in the left adnexal region from which ovary is not separately visualised



**Fig 2:** MRI showing a large, oval, non-enhancing, thin-walled cyst (17x12x11 cm), arising from the left ovary, extending to the L2 vertebral level and abutting the bowel.



**Fig 3:** Intraoperative image showing large para ovarian cyst (A, B), after removal (C)



**Fig 4:** HPE of the cyst in H & E in 40x

**Conclusion**

Giant retroperitoneal paraovarian cysts are exceptionally rare, often posing diagnostic challenges due to their size and atypical location. Imaging modalities such as ultrasonography, CT, and MRI play crucial roles in preoperative assessment; however,

definitive diagnosis and origin are often confirmed only during surgery and histopathological examination. In this case, surgical excision was both diagnostic and curative, with histopathology confirming a benign serous cyst of paramesonephric origin. The findings underscore the importance of considering paraovarian cysts in the differential diagnosis of large pelvic or retroperitoneal masses. Future research should focus on improving imaging-based diagnostic criteria and exploring minimally invasive surgical approaches for managing such rare giant cysts.

**Conflict of Interest**

Not available

**Financial Support**

Not available

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