

# Mesothelial Cyst of Left Round Ligament, Misdiagnosed as a Left-sided Ovarian Cyst Presenting with Pain Abdomen: A Rare Case Report

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## Abstract

The mesothelial cysts of the round ligament of the uterus are a rare pathology. They are usually misdiagnosed as inguinal hernias or as an adnexal mass. Mesothelial cysts are considered as developmental disorders. Ultrasound and computed tomography scan help in the diagnostic workup. Most of the cysts are asymptomatic. If the cyst is symptomatic or grows in size over time, they may be treated by surgical excision and the nature of lesion can be confirmed by histopathology. A 35-year-old female patient, Para 4 Living 4, the female patient presented to outpatient department with complaint of excessive flow during menstrual cycle for the past 2 cycles and pain abdomen since 15 days.

**Key words:** Mesothelial cyst, Ovarian cyst, Round ligament

## INTRODUCTION

A mesothelial cyst of the round ligament is a rare cause of inguinal mass or an adnexal mass.<sup>1-4</sup> The literature between 1980 and 2013 reveals 10 cases only.<sup>3,4</sup> Establishing an accurate pre-operative diagnosis based on clinical features is challenging.<sup>2,5</sup> Mesothelial cyst is usually asymptomatic or tends to produce pain, discomfort or sensation of heaviness and bulging.<sup>1,2</sup> A mesothelial cyst may be associated with an inguinal hernia in 30-40% of cases.<sup>5,6</sup> The imaging studies help in the diagnostic workup.

## CASE REPORT

A 35-year-old female patient, Para 4 Living 4, the female patient presented to outpatient department with complaints of excessive flow during menstrual cycle for the past 2 cycles and pain abdomen since 15 days. The patient had h/o ovarian cyst for the past 4 years, which

was treated conservatively in various private hospitals over a period of 2-year, but the cyst did not resolve. The above history was supported by previous ultrasound reports, which showed left ovarian cyst of 4 cm × 5 cm. The patient was married for the past 20 years; her last child was 6 years old. All the children delivered at home. She was not using any contraception methods. Her past menstrual cycles were regular and normal. However, her present cycles were regular but excessive flow lasting for 6-7 days associated with clots and dysmenorrhea.

### Examination

On examination, the patient was moderately built and nourished.

The vitals were stable. On systemic examination, the respiratory and cardiovascular systems were within normal limits. On per abdomen examination, there was tenderness in the left iliac fossa. There was no palpable mass. There was no guarding and rigidity. On per speculum examination, cervix and vagina appeared normal. On per vaginal examination, the uterus was normal in size and fornices were free and non-tender.

### Investigation

Routine blood investigations and ultrasonography (USG) of the whole abdomen were advised.

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The ultrasound report showed uterus was anteverted, normal in size and echotexture, endometrium 10 mm. The left ovary was enlarged with cystic changes 45 mm × 55 mm, thin-walled, unilocular. The right ovary was normal.

### Management

As the patient was young and the size of the cyst was less than 5 cm, the patient pain subsided by analgesics and the general condition was stable, and the patient was treated conservatively, and cyclical oral contraceptive pills were advised for 3 months. The patient was reviewed after 3 months and USG was done on day 2/day 3 of the cycle.

The ultrasound showed the persistence of left ovarian cyst 55 mm × 65 mm. As the patient was symptomatic and pain abdomen was persistent, laparotomy was advised.

### Intraoperative Findings

The uterus was bulky, with left ovary was enlarged 4 cm × 3 cm × 2.5 cm with the hemorrhagic cyst. The fallopian tube showed a paratubal cyst 1 cm × 1 cm. A cyst of 7 cm × 4 cm × 3 cm was seen in the broad ligament (Figure 1). On exploration and blunt dissection, the cyst was traced laterally and was originating in the left round ligament. The cyst was unilocular, filled with straw color fluid, lined by paper thin wall and was excised separately (Figure 2). Total abdominal hysterectomy with left salphingo-oophorectomy was done as the patient had menorrhagia with pelvic inflammatory disease with the left ovarian hemorrhagic cyst. The specimen was sent for histopathology. The post-operative period was uneventful, and patient recovered completely.

### Histopathology Report

Section of the separate cyst showed flattened cells lining the cyst wall with thickened and dilated blood vessels underlying a fibrocollagenous stroma-mesothelial cyst of round ligament. Histopathology of the uterus and left adnexa showed chronic cervicitis with nabothian cyst with paratubal cyst.

### DISCUSSION

The round ligament extends from the uterus, through the inguinal canal, and ends in the region of mons pubis and labia major. Embryologically, this is the female counterpart of gubernaculum testis and is predominantly composed of smooth muscle fibers, connective tissue, vessels, and nerves with a mesothelial coating.

The round ligament cyst is the same disease as a cyst of Nuck's canal and is inclusion of embryonic mesenchymal elements or remnants during the development of the round ligament.<sup>1</sup>

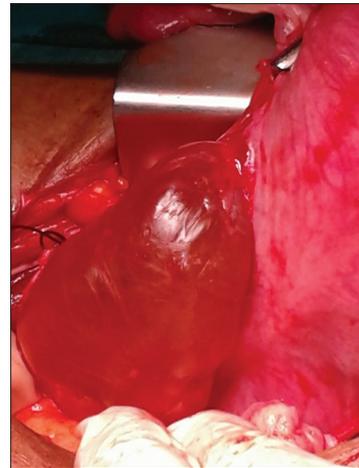


Figure 1: Thin-walled, straw colored fluid filled cyst in the left-sided round ligament



Figure 2: The relationship of the round ligament cyst, to uterus and left adnexa

The cyst of mesothelial investment of round ligament is lined with a single layer of flat, cuboidal cells.<sup>1,2</sup> Clinically, a mesothelial cyst of the round ligament is usually misdiagnosed as the inguinal hernia or adnexal mass because of its anatomic location and relatively rare occurrence.<sup>1-3</sup> Other unusual tumors involving the round ligament has been reported in the literature like ovarian cyst, endometriosis, leiomyoma, rarely leiomyosarcoma.<sup>4,5</sup>

### CONCLUSION

Although rare, a mesothelial cyst of the intraperitoneal round ligament should be included in the differential diagnosis of the inguinal mass or adnexal mass in the female patient. Computed tomography scan or an ultrasound would be a useful tool in the diagnosis as they demonstrate a peristaltic cystic mass. The definitive diagnosis is usually made intraoperatively and is further confirmed histologically.<sup>2</sup>

Given the benign nature of the disorder, a reasonable option would be to observe the asymptomatic patient with serial ultrasound examinations. The cyst that becomes symptomatic/grow in size is better treated by surgical excision.<sup>3,5</sup> Following excision prognosis is excellent, and no recurrence have been reported.<sup>5,6</sup>

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