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Case Report

Isolated torsion of paraovarian cyst: a case report with review of literature

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ABSTRACT

Paraovarian cyst (POC) develops in the mesosalpinx, between the fallopian tube and the ipsilateral ovary. The incidence is 02-03% of adnexal masses and torsion occurs in about 01% of acute abdomen in women with adnexal mass. It is common in reproductive age and originates from the mesothelium or the embryonic remnant of Müllerian or Wolffian duct. The cyst is usually benign, unilateral, sessile, unilocular, small size and asymptomatic. The patient may be asymptomatic or present with chronic pain when a POC increases in size or with an acute abdomen when it develops complications like torsion, hemorrhage, rupture, or malignancy. Diagnosis is difficult, and surgical exploration is the gold standard for diagnosis and management. We present a case of 24-year-old unmarried girl with dull pain abdomen off and-on-and low back pain for three months is more so for last 3 days without gastrointestinal or urinary symptoms or menstrual abnormality. Infective origin was excluded clinically and on blood count. Ultrasound revealed a cystic lesion in the left adnexa likely to be a simple ovarian cyst. She developed acute abdomen features later, and laparoscopy revealed a torsion left POC of 10×10 cm. De-torsion and cystectomy were performed, and histopathology reported a benign POC of paramesonephric origin. Rare incidence and challenging diagnosis must be kept in mind in acute abdomen with adnexal mass, and surgical exploration should not be delayed. The presentation aims to report the rare pathology and Laparoscopy as the gold standard for diagnosis and management.

Keywords: Paraovarian cyst, Fallopian tube, Acute abdomen, Laparoscopy, Cystectomy

INTRODUCTION

Paraovarian cyst (POC) is located in the mesosalpinx, between the two layers of broad ligaments and separates the fallopian tube from the ipsilateral ovary.[1] It constitutes about 02-03% of adnexal masses, and torsion POC accounts for <01% of acute abdomen in women with adnexal lesions.[2,3] Being sessile, it may include the fallopian tube and ovary in torsion. Incidence of torsion of the cyst, alone or with the fallopian tube and ovary, is reported by other authors as 2-16%, and three times more common during pregnancy.[4,5] The cyst is usually single and unilateral but may be multiple and bilateral, unilocular, 01-08 cm in size and rarely larger. The fallopian tube is well stretched over a large cyst, and fertility may be affected in such cases. POC originates from mesothelium of the broad ligament in 68%, 30% of cases, from the paramesonephric duct and 02% cases from the remnant of the mesonephric duct.[6,7] Though no age is exempt, it usually affects women of reproductive age and is most common in the third and fourth decades of life.[7,8] Small cyst is asymptomatic and detected incidentally during pelvic surgery for another indication. Chronic pain due to a large size or acute abdomen due to torsion, hemorrhage, and infection and very rarely malignancy, brings the patient for medical aid.[1] Clinical diagnosis is difficult for the location, so also by ultrasonography (USG). Splitting sign or ovarian crescent sign in transvaginal USG (TVS) differentiates it from an ovarian cyst.[9] Magnetic resonance imaging (MRI) is better for the diagnosis of POC, and surgical exploration confirms it. Treatment is surgery, enucleation of the cyst and preferably by laparoscopy and keeping away from the fallopian tube without affecting her fertility.[10] Any acute

or chronic pain abdomen in women with an adnexal mass, torsion of a POC should be there as a differential diagnosis. A diagnostic laparoscopy and proceed should be followed without delay before complications worsen. The presentation aims to report the rare case of acute abdomen, its diagnostic dilemma with clinical and USG findings and the need for emergency surgery to prevent further complications.

CASE REPORT

A 24-year-old unmarried girl reported to the gynecology outpatient department of the institution with complaints of dull pain off and on in the left side of the lower abdomen and lower back since 03 months, which increased in intensity for the last 03 days. The pain was not related to food or menstruation and was not of high intensity, requiring medication to date. She attended menarche at the age of 13 years, cycle was 3-5 days/30 days, regular, normal flow without dysmenorrhea and last menstrual period was one week back. She was a government employee working in a security organization. There was no relevant past medical, surgical, or family history. Bowel and bladder functions were normal. Upon examination, her general condition was good, with normal vitals. The cardiovascular, respiratory, and central nervous systems were within normal limits. Abdomen was not distended, mild tenderness in the left iliac fossa, no guarding or rigidity, no evidence of free peritoneal fluid, no mass and bowel sound was normal. Her routine blood and urine investigation reports were within normal limits except the total leukocyte count of 12000/mm^3 which was neither very high to consider a pelvic infection, nor were there any other findings suggesting infection. Transabdominal USG revealed a cystic mass of 7.8×7.3 cm in the left adnexa, likely an ovarian unilocular simple cyst. Patient was admitted with the provisional diagnosis of ovarian cyst, put on antibiotics and counselled for laparoscopy and proceed under anesthesia, which she refused. On day four of admission, her pain got exacerbated, spasmodic, radiating to the back and associated with vomiting. With counselling about the likely cause of torsion and complications and informed consent for the procedure under general anesthesia, laparoscopy was performed. Left POC of 10×10 cm with a single round of torsion around the left fallopian tube and without affection of vascularity was noted, as it is shown in Figure 1. De-torsion of the cyst and partial aspiration of clear watery fluid followed by enucleation were done carefully, keeping distance and without affecting the ipsilateral fallopian tube and ovary to preserve her fertility well, which is presented in Figures 2 and 3. Hemostasis was ensured, other pelvic organs were checked to be normal, and the procedure was concluded. The specimen was submitted for histopathological examination (HPE). Her intra and postoperative periods were uneventful, and she was discharged on the fifth postoperative day with the advice to review with the HPE report. Her HPE report revealed a cystic lesion lined with ciliated columnar to flattened epithelium with fibrocollagenous wall suggestive of paramesonephric POC without any evidence of malignancy, as shown in Figure 4.

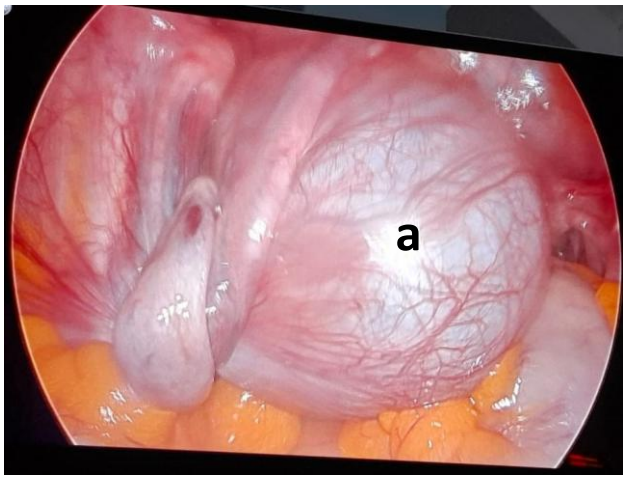

Figure 1: Laparoscopic picture of torsion of the left POC around the ipsilateral fallopian tube.
*a-Paraovarian cyst.

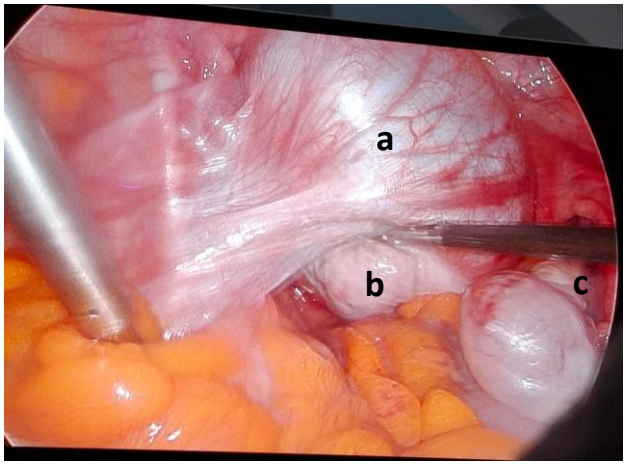

Figure 2: Left POC after de-torsion.
a-Left Paraovarian cyst after de-torsion, b-left ovary, c-right ovary.

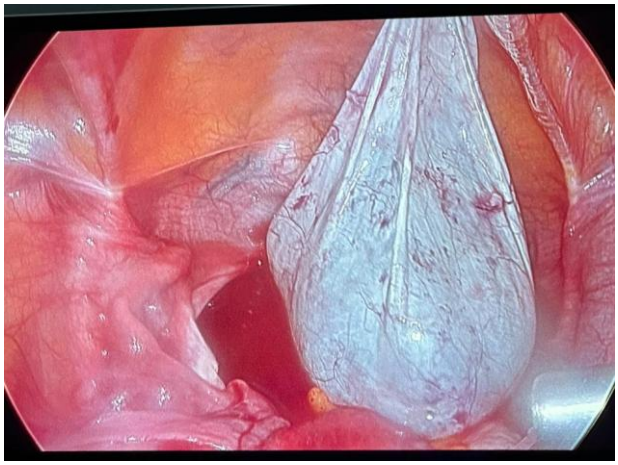

Figure 3: Enucleated left POC.

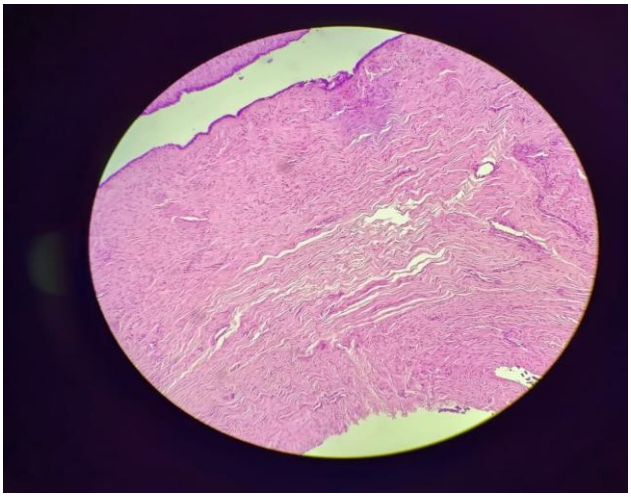

Figure 4: Histopathology picture of the enucleated cyst.

DISCUSSION

POC is asymptomatic unless it grows into a large size or develops complications, presenting usually as an acute abdomen.[11] That is the reason for its delayed diagnosis. On reporting, our patient had a cyst of 07.8×07.3 cm on USG and pain abdomen which later got exacerbated with vomiting, indicating torsion. It is usually detected incidentally during abdominal surgery and thus enucleated irrespective of size, as it has a propensity to grow rapidly to end in complications.[7] Though large cysts are more prone to produce complications, there is no consensus regarding the size of asymptomatic POC detected on USG that must be enucleated surgically. Laparoscopy is the preferred procedure over laparotomy and de-torsion of the cyst, aspiration of fluid for easy manipulation, maintaining distance from fallopian tubes and ipsilateral ovary are the principles to reduce tissue damage, postoperative adhesions, and preservation of fertility, in addition to less pain and early recovery after the surgery.[12] We followed the same principle, as she was a 24-year-old unmarried girl. Though rapid growth is reported in pregnancy and is more common in the reproductive age group, no influence of sex hormones has been reported, nor has it affected menstruation.[9] Although the majority of POC are benign, malignancy has been reported in 02-03% cases.[13,14] The POC in the present case was benign on HPE. HPE reported the origin of the cyst as paramesonephric (Mullerian) in this case, which constitutes about 30% of cases of POC. Serous cysts of Müllerian origin usually occur adjacent to the ipsilateral ovary, as was found in our patient.[15]

CONCLUSION

Torsion POC presenting as acute pain abdomen with nausea and vomiting is a diagnostic challenge both by clinical examination and USG. Definitive diagnosis is made during surgery. Laparoscopy is the preferred approach to laparotomy to protect her fertility, in addition to other advantages of the surgical method. HPEs diagnose the nature of the pathology and determine the need for further management, although the incidence of malignancy is low.

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