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Case Report

Ovarian cyst in pregnancy: a case report

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ABSTRACT

In this case, we report a 27-year-old multigravida with 20 weeks+2 days presenting with right ovarian cyst with previous LSCS. She presented to the antenatal clinic with amenorrhea since from last 5 months. Her ultrasonography report showed that single live intrauterine gestation of 20 weeks 2 days, fetal cardiac activity presented, liquor was adequate, placenta implanted in fundal region, CL was adequate, internal os closed. The impression was right ovary shows a complex cyst with peripheral partial septations and subtle low-level echoes. Her MRI report showed large well defined cystic lesion in the right adnexa with thick internal septations postero-inferiorly as described, likely complex right ovarian cyst. She was diagnosed to have right ovary cyst along with right fallopian tube and laparotomy proceed with right ovarian cystectomy under CSEA and right salphingectomy was carried out.

Keywords: Ovarian cyst, Pregnancy, Cystectomy, Salphingectomy, Diagnosis and management

INTRODUCTION

Ovarian cysts are fluid-filled sacs that develop on or within an ovary. While many are benign and asymptomatic, some can lead to significant clinical complications. Understanding their nature, historical context, and epidemiological patterns, especially in regions like India and Himachal Pradesh, is crucial for effective management and treatment.[1]

In 1809, Ephraim McDowell performed the first successful ovariotomy, removing a large ovarian tumor without anesthesia or antisepsis-marking a significant milestone in gynecological surgery.[2] Later surgeons like Thomas Keith refined surgical techniques, substantially reducing mortality rates associated with such operations.[3]

Ovarian cysts are broadly categorized into two types: functional and pathological. Functional cysts-such as follicular cysts and corpus luteum cysts-result from normal ovulatory processes and often resolve spontaneously.[4,5] Pathological cysts include dermoid cysts (mature cystic teratomas), cystadenomas, and endometriomas; these arise from abnormal cellular growth and may require surgical intervention due to potential complications or malignancy risk.[6,7]

Many ovarian cysts are asymptomatic and discovered incidentally during pelvic examinations or imaging studies. When symptoms occur, they may include pelvic pain, bloating, menstrual irregularities, or dyspareunia. Complications such as rupture, hemorrhage, or torsion can present with acute abdominal pain and require immediate medical attention.[1]

Globally, ovarian cysts are prevalent, particularly among menstruating individuals-approximately 10-30% develop at least one cyst in their lifetime.[1] In the sub-Himalayan belt of rural India, a four-year study showed that 76% of ovarian neoplasms were benign, 3% borderline, and 21% malignant; surface epithelial tumors were predominant.[8] In Kangra Valley, Himachal Pradesh, among 148 ovarian tumor cases, 78.4% were benign, 2.7% borderline, and 18.9% malignant. Surface epithelial tumors were most common, followed by germ cell and sex cord-stromal tumors; malignant tumors were more prevalent in women over 40.[8] Functional cysts often resolve without intervention, while persistent, large, or symptomatic cysts may require surgical removal. Laparoscopic cystectomy is preferred due to its minimally invasive nature and faster recovery.[1,5]

CASE REPORT

Mrs. X, 27 years old multigravida presented to the antenatal clinic with chief complaints of 5 months Amenorrhea. Her menstrual cycles were regular. She gave no history of fever, rashes, burning micturition, bleeding per vagina, headache, blurring of vision, pedal edema. She conceived spontaneously. She detected her pregnancy after 14 days of missed period. She had regular antenatal visit. She took two doses of tetanus. No past history of any kind of disease like diabetes mellitus, hypertension, tuberculosis, asthma, epilepsy, any congenital malformation and blood transfusion. She had past history of LSCS from 3 years back.

On examination patient was calm, conscious, oriented and coherent with pulse 80 bpm, blood pressure 114/72 mmHg, temperature afebrile, cardiovascular, central nervous system and respiratory systems normal. Abdominal examination revealed fundal height corresponding to 20-24 weeks size deviated to left side cystic mass-16 weeks size palpable on left side vertical well healed scar present no scar edema. Uterus was irritable, non-tender and external ballottement present. There was a single fetus in longitudinal lie with cephalic presentation. Fetal heart rate was good and regular. On vaginal examination uterus approximate 18-20 weeks size soft cystic mass felt on right side, approximate 18-20 weeks size non-tender.

All her blood components, HBSAG, CA-19-9, CEA, CA-125 and urine investigations were within normal limits. Her alpha fetoprotein was increased. Her ultrasonography reported that single live intrauterine gestation of 20 weeks 3 days, fetal cardiac activity presented, liquor was adequate, placenta developing in fundal region. CL is adequate, internal os closed. Left ovary appears norma. Right ovary shows a complex cyst of size 10.7×8.3×6.5 cm. with peripheral partial septations and subtle low-level echoes. No evidence of any whirling of vessels/torsion seen.

The findings of biometry-biparietal diameter 19 weeks+0 days, head circumference- 18 weeks+3 days, abdominal circumference-18 weeks+ 3 days, femur length-18 weeks +3 days, expected fetal weight-239 gm. The findings were suggestive of a single live intrauterine pregnancy of 18 weeks 4 days with right ovarian cyst.

The impressions of MRI, large well defined cystic lesion in the right adnexa with thick internal septations postero-inferiorly as described, likely complex right ovarian cyst. The plan of treatment was laparotomy and proceed with right ovarian cystectomy under CSEA with right salphingectomy.

In pre-operative intervention, NPO from midnight, remove nail paint, jewellery, get PAC done, follow PAC orders. Informed consent was taken in written form. Inj. Ceftriaxone 1 gm IV, Inj. Pantop 40 mg IV, Inj. Perinorm 10 mg IV, Inj. Td 0.5 ml IM, Tab. Dulcolex 2 Tabs, Inj. Aqsusten 25 mg IM, secure IV-line RL 125 ml/hr. Shift the patient to OT.

The operative findings-After induction of combined spinal anesthesia patient made to lie down in supine position. Under all aseptic precautions, patient parts cleaned and draped. Vertical infra-umbilical skin incision given, excising previous scar. Abdomen opened in layers. Gravida uterus seen i.e. Bicornuate uterus. Right ovarian cyst of around 10×8 cm is noted in right adnexa with minimal mobilization of uterus. Right ovarian clear cyst exteriorised which was partially twisted. Straight clamp applied at the right infundibulopelvic ligament, clamped cut and ligated and cystectomy done. Haemostasis achieved. All instruments and mops counted and confirmed with staff. Abdomen closed in layers. Skin closed via mattress sutures. Antiseptic dressing done. Patient shifted to post operative in stable condition.

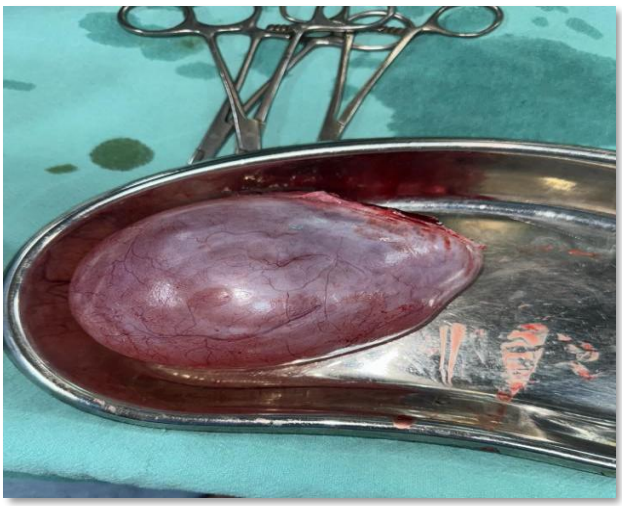

Figure 1: Right ovarian cystectomy.

In intra-operative findings, right ovarian cyst identified which was partially twisted. Right infundibulopelvic ligament clamp, cut and ligated. Intact cyst removed and

its measurement taken i.e.10×7×4 cm. Hemostasis achieved, abdomen closed in layers. Skin closed via mattress sutures.

In postoperative management, IV fluids Ringer lactate, NS, DNS in 125 ml/hr given to the patient. Inj. Ceftriaxone 1 gm IV, Inj. Gentamycin 80 mg IV, Inj. Pantop 40 mg IV, Inj. Perinorm 10 mg IV, Inj. PCM 1 gm IV, Inj. Voveron 75 mg IM administered to the patient. Provided sterile vulvul pad, monitored vital signs, bleeding per vagina (Figure 1).

According to the physician instructions during discharge, the patient should drink a lot of water, eat a diet heavy in iron and protein, and practice good personal hygiene. psychological and emotional assistance given to the customer.

DISCUSSION

Adnexal masses are identified in 2-20 per 1,000 pregnancies. The most common types requiring surgery adnexal masses are identified in 2-20 per 1,000 pregnancies. The most common types requiring surgery are dermoid cysts (32%), endometriomas (15%), functional cysts (12%), serous cystadenomas (11%), and mucinous cystadenomas (8%). About 2% are malignant. Approximately 70% resolve spontaneously; however, surgery is warranted for symptoms, suspicion of malignancy, or risk of torsion.[9] Laparoscopic management of adnexal masses in pregnancy offers shorter hospital stays and comparable risks of miscarriage or preterm delivery compared to laparotomy, highlighting its growing safety and effectiveness.[10] Between 51%-92% of adnexal masses resolve during pregnancy. Persistent masses tend to be >5 cm or complex in morphology. Risks include torsion, rupture, and labor obstruction-especially for masses 6-8 cm during the mid-second trimester (10-16 weeks).[11]

Adnexal masses, though common (incidence ~1–5.3%), are usually benign. Surgical intervention is recommended for masses >6 cm, in the second trimester to reduce risks. Laparoscopy has become acceptable where expertise and GA allow.[12] A 23-year-old primigravida at 30 weeks had ovarian torsion; cystectomy was performed, and she delivered a healthy term infant-underscoring that timely surgical management can yield favorable outcomes even in the late second or early third trimester.[13] A 42-year-old woman with a bicornuate uterus presented with a twisted right ovarian cyst; laparotomy and salpingo-oophorectomy were performed, and recovery was uneventful-paralleling the anatomical challenges in your case.[14] A recent review emphasizes that adnexal masses in pregnancy often require individualized plans considering maternal and fetal safety. Imaging via US and MRI is key, and surgical intervention is sometimes essential-even in the second trimester. Laparoscopy is favored when feasible.[15] A case report detailed ovarian torsion in a woman with a bicornuate uterus, managed surgically, reflecting the reproductive risk associated with such uterine anomalies.[16] Imaging studies (US/MRI) reliably distinguish uterine anomalies like bicornuate uterus, which is essential preoperatively for surgical planning and counseling in reproductive-age women.[17] Ovarian cysts, pregnancy, and uterine enlargement are known risk factors for torsion. Ultrasound with Doppler and features like the whirlpool sign are critical for diagnosis and guiding timely intervention.[18]

CONCLUSION

Ovarian cysts are a ubiquitous gynecologic finding-often benign and asymptomatic-but they can pose serious risks when persistent, large, or complex, particularly during pregnancy. Diagnostic imaging, especially transvaginal ultrasonography and MRI, plays a pivotal role in identifying cyst characteristics, assessing risk, and guiding management decisions. In your case, a complex right ovarian cyst-measuring about 10×8 cm-combined with a bicornuate uterus, warranted surgical intervention via laparotomy in the second trimester for optimal safety.

Literature supports that while many adnexal masses (up to 70%) resolve spontaneously, surgery becomes necessary when there is a risk of torsion, rupture, or malignancy. In pregnancies, adnexal masses requiring surgical management include dermoid cysts (32%), endometriomas (15%), and functional cysts (12%), with approximately 2% being malignant. Management should be individualized based on mass size, gestational age, and symptoms.

Minimally invasive approaches-such as laparoscopy-have shown excellent safety profiles, including shorter operative times, reduced blood loss, less postoperative pain, and comparable obstetric outcomes, when performed in appropriately equipped centers. However, in complex anatomical scenarios like bicornuate uterus and potential torsion, as in your case, laparotomy remains a prudent and effective option.

In summary, while many ovarian cysts in pregnancy are benign and resolve naturally, a patient-specific approach is essential. Careful imaging, vigilant monitoring, and timely surgical action (minimally invasive when feasible) ensure favorable maternal and fetal outcomes-balancing safety with effectiveness.

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