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**RESEARCH ARTICLE**

## Preterm Vaginal Delivery and Postpartum Laparotomy for a Giant Ovarian Serous Cyst: A Case Report

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### ABSTRACT

Ovarian cysts during pregnancy can be functional, benign, or malignant neoplasms. Managing these cysts during pregnancy is a critical issue and depends on many different factors. Ovarian cyst size, type, origin, patient gestational age, and medical condition are the most important factors in choosing appropriate management. In this report, we will discuss the management of a giant ovarian serous cyst, an intriguing incidental finding on ultrasonography during the third trimester. In the current report, our hospital received a referral for a 26-year-old Gravida 4 Para 3 at 35 weeks of gestation who had a 4-month history of progressive generalized abdominal swelling, abdominal fullness, early satiety, and intermittent episodes of mild low back pain. Ultrasonography revealed a single live intrauterine foetus at 34 weeks with a separate, huge cystic mass (25 cm by 29 cm). Twelve hours after her admission, she experienced a spontaneous onset of labour, leading to a preterm normal vaginal delivery of a 2.5 kg female baby with an APGAR score of 8 in the first minute and 10 in the fifth minute. Two weeks later, during the puerperium, she developed progressive abdominal distension and worsening discomfort; she underwent a laparotomy and a left salpingo-oophorectomy to remove a large left ovarian mass weighing 13 kg. We sent the specimen for histopathology, and the results showed a benign ovarian serous cyst. The patient had uneventful progress in post operatively follow up and was discharged from an outpatient clinic in good condition after her puerperium period.

### KEYWORDS

Preterm vaginal delivery, giant ovarian serous cyst, pregnancy, postpartum laparotomy.

### ARTICLE INFORMATION

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### 1. Introduction

Pregnancy-related ovarian cysts are found at an incidence of 0.2-2 % (Kiemtoré et al. 2019), frequently tiny and symptomless. In most cases, they resolve independently and are frequently functional (Senarath et al. 2021). They rarely grow to be huge (D'Ambrosio et al. 2021) and usually appear before the third trimester of pregnancy (Albers et al. 2020). Giant ovarian cysts are fluid-filled sacs or pockets that grow larger than 10 cm and form at the cost of the female gonad (Kiemtoré et al. 2019; Pham et al. 2022). During the gravid-puerperium stage, giant ovarian cysts are unusual and frequently functional (Kiemtoré et al. 2019). The recommended course of treatment for ovarian cysts during pregnancy is cautious care if the patient is asymptomatic and the cyst's characteristics match those of benign pathology (Senarath et al. 2021; Sheela et al. 2017). In this paper, we report a rare instance of a big ovarian cyst in pregnancy that was reported in Tanzania during the gravid-puerperium phase.

### 2. Case report presentation

Our hospital received a 26-year-old woman, gravida 4 para 3, who had a four-month history of abdominal swelling, fullness, and low back pain at 35 weeks gestation, despite having no history of vomiting, diarrhoea, constipation, or vaginal bleeding. At 12 weeks of gestation, she attended an antenatal clinic four times, with a normal blood pressure of 100/60. She had negative syphilis, HIV, and malaria screenings but no hemoglobin or urinalysis checks. She received Tetanus Toxoid (TT3). The woman had three vaginal deliveries, and all the children were healthy. At 14, she reached menarche, had regular monthly cycles, no modern contraceptive experience, blood transfusions, and no history of cancer in her first-degree relatives. The patient was fully conscious, without signs of dehydration or jaundice, and had normal blood pressure, pulse rate, and respiratory rate. She had a symmetrical abdomen, bulging flanks, and dullness throughout. The Pinnard fetoscope revealed audible foetal heart sounds at a rate of 143 beats per minute. At 35 weeks of gestation, we diagnosed her with a giant ovarian cyst and an intrauterine pregnancy. Ultrasounds revealed a normal pregnancy with a separate cyst. We monitored the patient, managed her expectantly until delivery, and considered surgery after birth. On day two post-admission, a woman experienced spontaneous labour and delivered an alive 2.5 kg baby, and the postpartum follow-up was uneventful. We scheduled a laparotomy for the fourth week postpartum after obtaining normal results from the postpartum chest x-ray. Two weeks later, post-discharge, she returned with an increase in abdominal size, fullness, and early satiety but no nausea or vomiting. During the surgery, we put the patient to sleep and gave them general anaesthesia and endotracheal intubation. Next, we cleaned and draped the patient before making an extended sub-umbilical midline incision to open the abdomen. We then removed a 13-kg left ovarian mass (Figures 1–3). We treated a patient with intravenous antibiotics and metronidazole after she underwent laparotomy surgery. Following the surgery, she made a full recovery and received her discharge two days later. Histology results confirmed a benign ovarian serous cyst, confirming her well-being.



(Figure 1). A giant ovarian cyst excised through an extended sub umbilical midline incision



(Figure 2). A giant ovarian cyst on the mayo table



(Figure 3). A giant ovarian cyst weighing 13kg prepared for Histopathology evaluation

### 3. Discussion

Most adnexal masses are observed during pregnancy during routine prenatal care visits (Yacobozzi et al. 2012). The frequency and rate of detection of adnexal masses have increased as a result of the use of ultrasounds in pregnancy follow-ups (Hakoun et al. 2017). In the majority of studies, adnexal masses are discovered in the first two trimesters of pregnancy during antenatal care (Hakoun et al. 2017; Cavaco-Gomes et al. 2016). However, in our instance, the patient had clinical symptoms in the first two trimesters and was confirmed with an ultrasound in the third trimester. By the conclusion of the first trimester, 65–80% of people are asymptomatic because most functioning adnexal masses spontaneously shrink in size (Hakoun et al. 2017).

Experts have advised on several management options for adnexal masses during pregnancy. Some recommend that if a mass stays after the first trimester or is found for the first time in the second trimester, it should be surgically removed to avoid complications of torsion, rupture, labour blockage, and cancer (Robert et al. 2006). In our case, we treated the patient expectantly despite a symptomatic presentation, even though the diagnosis occurred in the third trimester. We also recommend laparoscopic surgery for its shorter recovery period, faster healing, and reduced risk of blood clots (Bhagat and Gajjar. 2022). Most pregnant women who have cystic ovarian masses without any symptoms or are suspected of cancer should postpone surgery. Women with large, painful, or highly likely cancerous tumours should have surgery during pregnancy (Bhagat and Gajjar. 2022; Leiserowitz, 2006). In some rare circumstances, pregnancy termination may be necessary, especially in cases involving cancer, to allow for prompt management in situations where the mother's health is at risk (Senarath et al., 2021).

In our case, we opted for expectant management and close follow-up, aiming for delivery at term and surgical removal of the cyst later in the postpartum period. Some studies have recommended the same approach of expectant management, which involves individual treatment and careful follow-up of ovarian masses during pregnancy due to unpredictable prognosis (Kamalimanesh et al., 2016; Hota et al., 2015; Mishra et al., 2018; Karim and Shujaat. 2022). Pregnant women with huge ovarian cysts can adopt expectant management and timed intervention despite the recommendation for antepartum removal of ovarian cysts to ensure a good pregnancy outcome (Mishra et al. 2018). Scheduling the operation and ensuring gentle action with minimal manipulation of the pregnant uterus could prevent adverse outcomes (Kamalimanesh et al. 2016). A successful vaginal delivery at term followed the antepartum removal of a giant cyst weighing 10 kg (Agah et al. 2018).

In our case, we had a successful premature vaginal delivery and then performed a laparotomy of a giant 12 kg ovarian serous cyst during the postpartum period. Some cases (Kiemtoré et al. 2019; Mandi et al. 2013) have reported the same mode of vaginal delivery for giant ovarian cysts, along with surgical management of the cysts in the postpartum period. Some cases involved performing an elective lower segment caesarean section (LSCS) at term, removing ovarian cysts surgically, and delivering a live baby (Hota et al., 2015; Mishra et al., 2018; Karim and Shujaat. 2022).

### 4. Conclusion

Clinicians need to be aware of the presentation, diagnostic standards, and available treatment options for giant ovarian cysts because of their different presentation and potentially fatal effects on the mother and foetus. In this regard, reporting this rare case is absolutely necessary and critical. Despite the recommended surgical excision of the symptomatic mass, we managed our case expectantly, resulting in a successful preterm delivery. Our goal is to alert clinicians and other healthcare professionals to the importance of expectant management and individual case-by-case follow-up in pregnant women with giant ovarian cysts for the best obstetric outcome.

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