LARGE SOLITARY LUTEINIZED FOLLICLE CYST OF PREGNANCY AND PUERPERIUM: A CASE REPORT

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ABSTRACT

Background: Ovarian tumors and tumor-like lesions are relatively uncommon in pregnancy. A Large Solitary Luteinized Follicle Cyst of Pregnancy and Puerperium (LSLFCPP) is a rare benign cystic lesion, characterized by its rapid enlargement and large size that may mimic malignancy. Complications including rupture, torsion, and hemorrhage may arise, and as a result, these lesions require surgical excision.

Case presentation: A 22-year-old, para 1 gravida 2, presented with abdominal distension two days postpartum to the Kenyatta National Hospital (KNH). Abdominopelvic computed tomography (CT) scan showed a left cystic ovarian mass, 20 cm diameter, excised laparotomically. On histologic examination, a diagnosis of a solitary corpus luteum cyst lined by follicular cells was made.

Conclusion: Large solitary luteinized follicle cyst of pregnancy and puerperium is a rare cause of ovarian enlargement. A high index of suspicion should be considered when a large simple cyst is encountered during pregnancy and puerperium.

Keywords: luteinized cyst, puerperium, cystic lesion

INTRODUCTION

Ovarian tumors and tumor-like lesions in pregnancy are relatively uncommon, with an average incidence of 1%, of which only 4% are malignant (1). A Large Solitary Luteinized Follicle Cyst of Pregnancy and Puerperium (LSLFCPP) is a rare cystic lesion with only about 12 cases reported in the literature (1). Human Chorionic Gonadotropin (hCG) is thought to play a role in the development, but the pathogenesis remains unclear as some cases have been described late in puerperium (2). Large solitary luteinized follicle cyst of pregnancy and puerperium is characterized by its rapid growth and large size and may result in rupture, torsion, and hemorrhage, frequently necessitating surgical excision (2, 3). This is a case report of a large luteinized follicle cyst managed surgically.

CASE PRESENTATION

A 22-year-old, para 1 gravida 2, presented to the gynecology ward at the Kenyatta National Hospital (KNH) two days postpartum. She complained of abdominal distension following spontaneous term vaginal delivery. The outcome was a live female infant weighing 2685g. The patient gave a history of mild discomfort over the left lower abdomen during pregnancy that begun at five months and was relieved by rest. An obstetric ultrasound done one month before delivery did not report any adnexal mass. She was well until one day following delivery when she developed sudden onset abdominal swelling and intermittent lower abdominal pain with multiple vomiting episodes. Her lochia loss was normal.

On admission, her blood pressure was 119/66mmHg, pulse rate 79 beats/min, respiratory rate 18 breaths/min, and temperature 36.4°C. She had a distended abdomen on clinical examination, with a soft and tender abdominopelvic mass corresponding to 30 weeks' gestation. On speculum examination, the cervix appeared parous, with normal lochia loss. Ultrasound examination revealed a bulky uterus with no retained products of conception.

A well-circumscribed cystic mass was seen abutting the uterus with a volume of 2056cc. An abdominopelvic computed tomography (CT) scan revealed ascites with a large left ovarian cystic mass, measuring 17.46 x 21.90 x 19.73 cm. A full hemogram two days postpartum indicated a raised white blood cell count 15.73 x 10^9/L with a 78.1% neutrophilia. Beta-HCG levels were 103.8mIU/ml at four days postpartum. Cancer Antigen 125 (CA-125) was slightly raised at 46.92U/ml, and Alpha-Fetoprotein (AFP) was high at 31.6 IU/ml.

The patient was initially started on supportive care with analgesics, anti-emetics, and antibiotics. The patient was then scheduled for an exploratory laparotomy. Mild ascites with a left massive tubo-ovarian mass 25 x 25 cm with hemorrhagic areas under torsion were demonstrated intraoperatively. Detorsion was done, followed by left salpingo-oophorectomy, as there was minimal left ovarian tissue adherent to the cyst wall. The right ovary and fallopian tube appeared grossly normal. Omentum, peritoneum, splenic, and liver appeared grossly normal with smooth surfaces. Ascitic fluid was obtained for cytologic examination. A unilocular cyst that measured 25cm in diameter with hemorrhagic fluid was recovered. The capsule was intact with a smooth surface. The cyst had an edematous congested wall lined by follicular cells seen microscopically. The vessels were dilated with thrombosis and areas of hemorrhage. The cystic fluid was yellow, thin, and watery, with red blood cells, but no atypical cells were seen. A diagnosis of a corpus luteum cyst with hemorrhage and vascular congestion was made histologically. Neutrophils, lymphocytes, and macrophages were seen in the peritoneal fluid, suggestive of suppurative inflammation in a hemorrhagic background causing acute peritonitis.

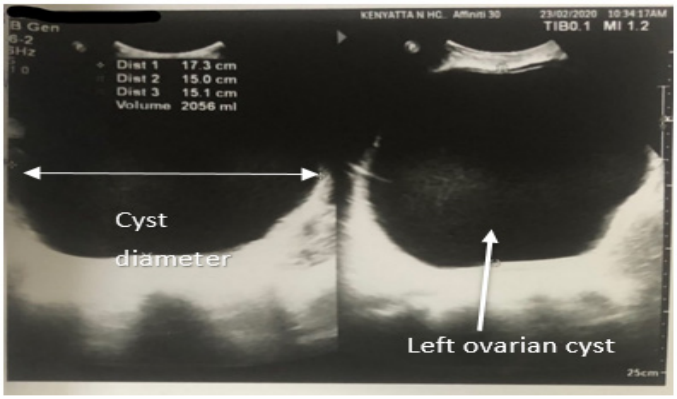

Figure 1: Abdominal ultrasound showing a left ovarian cyst

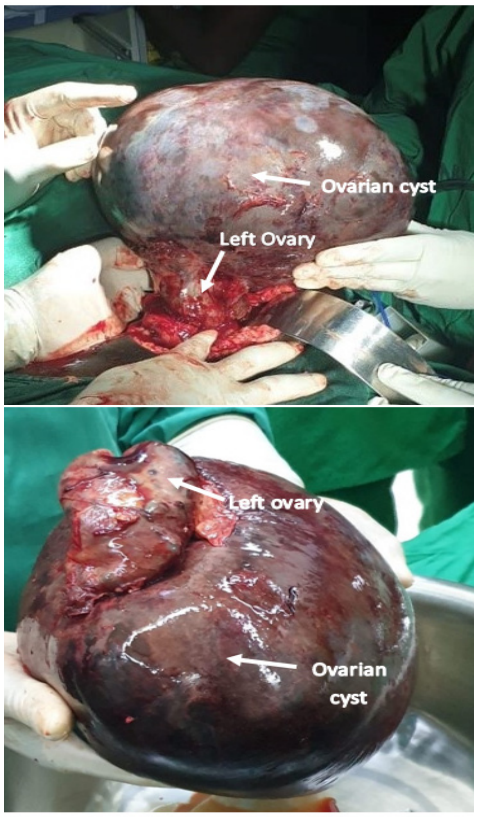

Figure 2: Macroscopic appearance of the ovary and cyst

DISCUSSION

Large solitary luteinized follicle cyst of pregnancy and puerperium is a rare type of ovarian cystic mass (1). Although a benign appearance characterizes these cysts, they rapidly enlarge, eventually requiring surgical excision (3). Most LSLFCPP cases are incidentally identified during antenatal exam, unlike our patient, who was diagnosed one week postpartum despite reporting left-sided discomfort antepartum. Adnexal masses and those arising from other abdominal organs may be missed on obstetric ultrasound in patients presenting abdominal pain and distension in pregnancy. Other imaging modalities, such as magnetic imaging resonance (MRI), may contribute to the diagnosis of LSLFCPP. However, a definitive diagnosis is by histopathology (4). These cysts usually have a good perinatal outcome, with the delivery of healthy infants at or near term (5).

The pathogenesis of large solitary luteinized follicle cysts of pregnancy and puerperium remains unclear. Human chorionic gonadotropin is thought to be involved in either stimulating or increasing tissue sensitivity (3, 6). However, the cyst's occurrence up to three months postpartum with normal hCG

levels suggests other factors' possible involvement (7). It has been postulated that hCG may initially stimulate the cyst to develop, followed by continuing enlargement caused by pituitary gonadotropins if there is no lactation postpartum (3). The patient had established lactation in the presented case.

The management of large solitary luteinized follicle cysts of pregnancy and puerperium is either expectant follow-up or surgically. A higher risk of complications is inherent due to the size of these cysts (5). Notably, conservative management may lead to higher rates of complications, including cyst accidents such as rupture or hemorrhage and torsion, as in the presented case. Various studies reported that cysts measuring between 6 - 8 cm in diameter posed a 22% risk of torsion in pregnancy (8). Moreover, one in nine cysts measuring more than five cm diameter would necessitate surgery, with symptomatic ones having a higher surgery rate (45%) (9). Generally, there is limited data on large luteinized cysts of pregnancy and puerperium.

CONCLUSION

The occurrence of large luteinized follicle cyst of pregnancy and puerperium is rare. Even so, it remains a critical differential diagnosis; however infrequent, when a large adnexal simple cyst is encountered in pregnancy and puerperium.

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