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# Large corpus luteum cyst associated with pregnancy: a case report

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**Summary**

A gestational corpus luteum cyst is the most common adnexal mass in early pregnancy and rarely exceeds five cm in diameter. Thus, surgery is rarely indicated. The present study reports the case of a 24-year-old pregnant woman who presented with a large adnexal mass that manifested as a large corpus luteum cyst at 32 weeks of pregnancy which required surgical intervention due to significant abdominal discomfort reported by the patient.

*Key words:* Corpus luteum cyst; Pregnancy; Surgical treatment.

## Introduction

A gestational corpus luteum cyst is the most common adnexal mass early in pregnancy and rarely exceeds five cm in diameter. In most cases, surgical procedures are not required [1]. The most common ovarian diseases over the course of pregnancy include cystic teratoma (30.8%), serous and mucinous cyst adenomas (26%), corpus luteum cysts (13%), other benign tumors (7%), and malignant tumors (7%) [2, 3]. The management of adnexal masses during pregnancy is often difficult and complex.

## Case Report

A 24-year-old woman (G3P2A0) from rural Northeast Brazil with two normal deliveries sought treatment in November 2015, at a gestational age of 32 weeks and one day of amenorrhea, at a tertiary maternity center. She was referred after presenting with a large adnexal mass that had shifted and compressed the gravid uterus. She reported no weight loss in recent months. She reported respiratory distress and difficulty sleeping due to the large abdominal volume. Upon physical examination, the patient presented as ruddy, hydrated, acyanotic, anicteric, and afebrile. The very strained abdomen containing the gravid uterus was deflected to the right by a large palpable mass with a cystic consistency that occupied the epigastric, left hypochondria, and left iliac fossa regions (Figure 1). Initial ultrasound examinations revealed a singleton pregnancy at 34 weeks and two days based on biometric data, a grade 1 placenta, a fetal weight of 2,169 grams (between the 50$^{th}$ and 90$^{th}$ percentile), a normal amniotic fluid index, normal Doppler findings, and a cystic-like nodule in the left parauterine region measuring 14×17.4×17.2 cm with a volume of 2,207.8 cm$^3$. A laboratory evaluation showed a normal complete blood count, nonreactive PCR, normal renal and hepatic function tests, and normal tumor markers including CA 125, CA 19-9, and CEA. The decision was made to perform surgical intervention under spinal anesthesia via a laparotomy using a Pfannenstiel incision, after corticosteroid therapy for fetal lung maturation, at a gestational age of 33 weeks of amenorrhea. A large single cystic mass was observed in the abdominal cavity that had shifted the gravid uterus to the right. The abdominal cavity was free of ascites. Approximately 1.5 liters of citrine-colored liquid was initially aspirated from the cyst. The drained cyst was then externalized via the Pfannenstiel incision, and a left salpingo-oophorectomy was performed uneventfully (Figure 2). On the second day post-surgery, the patient experienced premature contractions that required the use of uterolytic drugs. The histopathology findings revealed a cyst with areas of luteinization. She was discharged on day five post-surgery and referred for high-risk prenatal follow-up. The baby was delivered via cesarean section due to functional dystocia on December 18, 2015.The newborn weighed 2,900 grams and was 45 cm in length.

## Discussion

The incidence of adnexal masses in pregnancy generally varies based on the age of the mother, use of ultrasound during prenatal care, and type of delivery. This incidence increases when ultrasound examinations are performed over the course of pregnancy and when cesarean section is the selected method of delivery [1, 2, 4].

Ovarian tumors represent 2-3% of all adnexal masses in pregnancy [1]. Most are functional cysts that usually resolve spontaneously during pregnancy, and between 0.7% and 1% of patients develop persistent masses. Malignant tumors account for 1% to 6% of all ovarian masses [2, 5].

The surgical procedure requires precise indications, as it can cause injury to the mother and neonate, particularly due

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Figure 1. — A large cystic mass associated with pregnancy.

Figure 2. — Appearance and volume of the cyst after 1.5 liters of its content is aspirated prior to surgical resection via a Pfannenstiel incision.

to maternal anesthesia and surgical complications, premature birth, and pregnancy termination. Conversely, conservative treatment can result in complications such as delays in treatment for malignant tumors, thus worsening the prognosis, twisting and rupture of the ovaries, pelvic blockages that can result in obstructed labor by large tumors, and the risk of uterine rupture [2, 6]. Thus, the removal of ovarian masses during pregnancy would be indicated in three situations: 1) elimination of a possible dystocia, 2) a risk of twisting, rupture, or bleeding, and/or 3) a risk of malignancy [7]. In the present case report, surgery was indicated due to the large size of the adnexal mass, which could result in labor dystocia, and the major abdominal discomfort suffered by the patient.

Based on sonographic evaluations, the risk of malignancy is higher in more complex, solid, or mixed tumors, multilobular tumors, tumors with papillary projections, tumors larger than five cm, and tumors with a low Doppler-derived resistance index [4]. Despite its size, the tumor described here had benign characteristics such as thin walls and the lack of septa and debris. Although evaluated, malignant tumor markers such as alpha-fetoprotein, lactate dehydrogenase, beta-human chorionic gonadotropin, and CA-125 are typically meaningless during pregnancy because pregnancy itself controls their increased expression [1-4, 6]. Thus, although the ovarian mass appeared to be benign despite its large mass, conventional surgery via a Pfannenstiel incision was selected for aesthetic reasons. After opening the abdominal cavity and performing a cavity inventory, it was possible to lance and drain much of the volume of the cyst. This allowed the authors to sufficiently reduce the size of the cyst to remove it through a minimal incision, resulting in decreased morbidity and fewer risks for the pregnancy.

Based on this report, the authors conclude that surgical decisions in cases of ovarian cysts during pregnancy should be individualized and based on set criteria.

## References

[1] Feitosa F.E.C., Silveira C.M.C., Moa A.C.L., Melo D.S., Monteiro M.M., Junior C.A.A.: "Adnexal masses in pregnancy". *Femina*, 2009, *37*, 137.
[2] Hann J., Verheecke M., Amant F.: "Management of ovarian cysts and cancer in pregnancy". *Facts Views Vis. Obgyn*., 2015, *7*, 25.
[3] Whitecar M.P., Turner S., Higby M.K.: "Adnexal masses in pregnancy: a review of 130 cases undergoing surgical management". *Am. J. Obstet. Gynecol*., 1999, *181*, 19.
[4] Grigoriadis C., Eleftheriades M., Panoskaltsis T., Bacanu A.M., Vitoratos N., Kondi-Pafiti A., *et al.*: "Ovarian cancer diagnosed during pregnancy: clinicalphatological characteristics and management". *G Chir*., 2014, *35*, 69.
[5] Ngu S.F., Cheung V.Y., Pun T.C.: "Surgical management of adnexal masses in pregnancy". *JSLS*, 2014, *18*, 71.
[6] Silva C.S., Paschoini M.C., Ângelo A.G., Paschoini G.C., Murta E.F.C.: "Adnexal mass and pregnancy: case report and review of literature". *Rev. Bras.Cancerol*., 2001, *47*, 403.
[7] Mundell E.W.: "Primary ovarian cancer associated with pregnancy". *Clin. Obstet. Gynecol.*, 1963, *6*, 983.

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