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Case Report

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Giant serous cystadenoma in twin pregnancy

Cistoadenoma seroso gigante en embarazo gemelar

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Abstract

A clinical case of giant serous cystadenoma is presented in the context of a twin pregnancy complicated by severe preeclampsia. The patient was admitted to the high-risk obstetric hospitalization area and underwent surgery by emergency cesarean section. During the procedure, a large tubo-ovarian tumor was evidenced, which was removed with fertility preservation. Histopathological examination confirmed the diagnosis of ovarian serous cystadenoma. It should be noted that in none of the prenatal ultrasound controls was the presence of an adnexal tumor reported, which underscores the diagnostic difficulty in this type of scenario. Ovarian tumors are pathological structures that can be benign or malignant depending on their histological characteristics. In women of reproductive age, timely diagnosis is essential to preserve fertility and reduce complications. Ultrasound is the initial tool of choice, while magnetic resonance imaging is reserved for more complex cases. The detection of adnexal tumors during a twin pregnancy represents an additional challenge in gynecology, since the potential complications of twisting, rupture or hypovolemic shock can seriously compromise maternal and fetal health. In the present case, giant tubo-ovarian tumor was not diagnosed during prenatal care and was identified as a transsurgical finding. The removal confirmed the diagnosis of serous cystadenoma, with a favorable evolution and a good prognosis for both the mother and the newborns. This case highlights the importance of thorough ultrasound surveillance and appropriate surgical preparation in patients with high-risk pregnancies.

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Resumen

Se presenta un caso clínico de cistoadenoma seroso gigante en el contexto de un embarazo gemelar complicado por preeclampsia severa. La paciente ingresó al área de hospitalización de alto riesgo obstétrico y fue intervenida quirúrgicamente mediante cesárea de emergencia. Durante el procedimiento se evidenció un tumor tubo-ovárico de gran tamaño, que fue extirpado con conservación de la fertilidad. El examen histopatológico confirmó el diagnóstico de cistoadenoma seroso de ovario. Cabe destacar que en ninguno de los controles ecográficos prenatales se reportó la presencia de una tumoración anexial, lo que subraya la dificultad diagnóstica en este tipo de escenarios. Los tumores de ovario constituyen estructuras patológicas que pueden ser benignas o malignas según sus características histológicas. En mujeres en edad reproductiva, el diagnóstico oportuno es fundamental para preservar la fertilidad y reducir complicaciones. La ecografía es la herramienta inicial de elección, mientras que la resonancia magnética nuclear se reserva para casos de mayor complejidad. La detección de tumores anexiales durante un embarazo gemelar representa un desafío adicional en ginecología, dado que las complicaciones potenciales torsión, ruptura o shock hipovolémico pueden comprometer gravemente la salud materna y fetal. En el presente caso, el tumor tubo-ovárico gigante no fue diagnosticado durante el control prenatal y se identificó como hallazgo transquirúrgico. La extirpación permitió confirmar el diagnóstico de cistoadenoma seroso, con evolución favorable y buen pronóstico tanto para la madre como para los recién nacidos. Este caso resalta la importancia de la vigilancia ecográfica exhaustiva y la preparación quirúrgica adecuada en pacientes con embarazos de alto riesgo.

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Introduction

Most ovarian cancers start in the fimbria of the fallopian tube (FT). This has led to the hypothesis that surgical resection of FT during gynecological and non-gynecological surgical procedures could prevent the development of epithelial ovarian cancer in women at high risk[1,2].

Ovarian cystadenomas are benign tumors, most of which originate in the coelomic epithelium of the ovarian surface and in embryological remains of the Müller's ducts; they are predominantly observed in adult women of reproductive age[3].

Giant ovarian tumors are rare, since they are diagnosed during routine gynecological check-ups or abdominal ultrasounds, however, it can be a condition of high morbidity and mortality because the tumor can rupture spontaneously, rupture during trauma or during pregnancy. Tumor rupture is a life-threatening situation due to hypovolemic shock, also causing intraperitoneal hemorrhage and peritonitis[4].

Patients with large ovarian tumors have a similar appearance to pregnant women and patients with morbid obesity[5].

The adnexal mass is identified in pregnant patients at a rate of 2 to 20 in 1000 and the most common types in pregnancy that require surgical management; dermoid cysts 32 %, endometriomas 15 %, functional cysts 12 %, serous cystadenomas 11 %, mucinous cystadenomas 8 %, and approximately 2 % are malignant masses[5,6].

Paraovarian or paratubal cysts constitute between 5 and 10 % of all adnexal lesions and usually originate in the Müller's duct[7,8]. Cystadenomas are characteristically unilateral.

Only about 5 % bilateral, and generally the tumors are large tumors that can occasionally reach massive proportions [9].

Several studies have reported that salpingectomy is safe, cost-effective, and not associated with early menopause, so much so that a widespread implementation of salpingectomy can reduce mortality from ovarian cancer[2].

The use of laparoscopy in adnexal masses is associated with a longer duration of surgery and anesthesia, with a shorter hospital stay, since the use of this surgical technique is better in adnexal masses compared to laparotomy[10].

The benefits of laparoscopic surgery over open surgery in the treatment of adnexal ovarian tumors are as follows. i) shorter hospital stay, less postoperative pain, shorter operative time, ii) less blood loss and lower risks of fetal loss, premature birth and low birth weight. Best practices for laparoscopic surgery during pregnancy include the left lateral decubitus position after the first trimester; port placement according to the size of the uterus and the location of the pathology, an insufflation pressure of less than 12-15 mmHg, intraoperative maternal capnography, pre- and postoperative monitoring of fetal heart rate, contractions, and thromboprophylaxis[11].

The objective was to present a clinical case of giant serous cystoadenoma in twin pregnancy in a patient with severe preeclampsia.

Case Presentation

This is a 23-year-old female patient, nulliparous secondary digestible, mestizo race, Ecuadorian, lives in the province of Guayas, Guayaquil canton, is a housewife.

Reason for attention; headache, tinnitus, pelvic pain, double pregnancy.

Disease evolution; The patient presented to the emergency room with a twin pregnancy of 34.5 weeks by ultrasound in the first trimester (9.1 weeks), reporting

a clinical picture of 8 hours of evolution, characterized by headache of moderate intensity, accompanied by tinnitus, pelvic pain that radiated to the lumbosacral region, fetal movements perceived by the mother of both fetuses.

Pathological personal history; gestational hypertension in the current pregnancy, diagnosed 2 months ago, treated with alphamethyldopa 250 mg, once a day, refers to vaginosis during pregnancy on four occasions and urinary tract infection, on one occasion with treatment.

Obstetric and gynecological history; childbirth 0, cesarean section 0, abortion 1, interreproductive period one year and six months, prenatal controls 6 particular, menarche at 12 years, regular menstrual cycles, beginning of active sexual life at 15 years, sexual partners three, a Pap smear for cervical cytology has never been performed.

As a family pathological history; hypertensive father.

Physical examination; patient oriented in time and space, Glasgow 15/15, reports neurological symptoms, headache and tinnitus. *Thorax*; symmetrical, lung fields, normal auscultation. *Abdomen*; globular with pregnant uterus, uterine height 34 cm with twin pregnancy, first product cephalic presentation fetal heart rate 148 beats per minute (bpm), fetus 2, pelvic presentation with 144 bpm, uterine activity absent.

Inguino-genital region; On inspection there was no evidence of fluid loss, on vaginal examination posterior cervix, short, soft consistency, half-open, palpable cephalic pole of one of the calves, intact membranes, bladder catheter with clear urine. *Symmetrical limbs;* Lower limb edema that leaves pitting, not hyperreflexia.

Vital signs; blood pressure 146/104 mmHg, pulse 92 bpm, respiratory rate 20 breaths per minute, temperature 36.5° C, SpO_2 98 %, alertness, proteinuria, positive proteinuria, MAMA Score 5 points, obstetric risk 8 points, very high due to obesity; recurrent vaginal infections, multiple pregnancy and hypertensive disorder of pregnancy, weight 95.4 kg, height 1.60 m.

Diagnosis; Preeclampsia with signs of severity + double pregnancy of 34.5 weeks.

Complementary exams:

Fetal monitoring; category 1; fetus 1, fetal heartbeat 130 bpm; fetus 2, 135 bpm, accelerations present, decelerations absent, variability conserved, uterine dynamics absent.

Pre-surgical laboratories; leukocytes 10.65, hematocrit 36.2, hemoglobin 11.8, platelets 318, neutrophils % 68.0, glucose 78.2, urea 20.44, creatinine 1.23, uric acid 7.91, TGO 23.77, TGP 14.5, LDH 265.24 blood group O positive, syphilis negative, non-reactive HIV.

New control laboratories; urea 22.11, creatinine 0.92, uric acid 7.32.

Obstetric ultrasound and fetal Doppler; dichorionic diamniotic twin pregnancy, fetus 1: weight 2380 g, FHR 124 bpm, left lateral anterior fundic placenta - umbilical art IP-1:06 p45-normal, MCA IP-1:63 p25 normal, tcp-1:59 p11 normal fetal weight percentile 54, fetus 2: single vertical pocket-7.2 cm, weight 2175 g, right lateral anterior placenta umbilical artery IP 1.01 p56 normal, ACM IP 1.43 bp normal, PI 1.41 p7 normal fetal weight percentile 23.

Treatment plan; nothing orally, control of vital signs and MAMA Score every 2 hours and according to score, nursing care, continuous fetal monitoring fetus

1 and 2, keep channeled 2 peripheral routes-neurological control, water balance, control of hourly diuresis, report to family member, informed consents, prepare for the operating room. Medication: sodium chloride 0.9 % 42 mL h^{-1}, intravenous alphamethyldopa 500 mg oral route every 6 h, nifedipine 20 mg oral route every 6 hours, labetalol 20 mg intravenous if pressure equal to or greater than 160/110 mmHg.

The patient was not operated on the day of admission and was transferred to a high-risk obstetric room. *Evolutionary note;* very high-risk patient experiencing a dichorionic diamniotic twin pregnancy 35 weeks 1 day of gestation with a history of gestational hypertension controlled with alphamethyldopa 250 mg oral route, full lung maturation dose at week 30. Patient is in a high-risk obstetric ward with a diagnosis of severe preeclampsia, at the moment with a MAMA Score of 5 points for elevated blood pressure at the time and positive proteinuria in 24 hours remains with a blue key activated, he has already received magnesium sulfate with control of hourly diuresis maintained between 60 and 100 mL, with a double antihypertensive scheme adjusted to maximum doses, however, the patient persists with high blood pressure, so it is decided to terminate her pregnancy.

Plan; Move to the operating room.

Surgical note; Prior asepsis and antisepsis of the surgical area, placement of sterile drapes, Pfannenstiel incision is made-opening of the abdominal cavity by anatomical planes: skin, subcutaneous cellular tissue, aponeurosis, muscle, peritoneum-exposure of the surgical field. Kerr-type hysterotomy was performed-newborn 1 female Apgar 7/7/8-clamping and timely cutting of the umbilical cord was performed, clear amniotic fluid in adequate quantity, it was delivered to the pediatrician on duty. The second live female newborn was extracted 6/7/8 with a weight of 1545 g, a timely cord clamping was performed-A cord sample was taken and the newborn was delivered to the pediatrician on duty-placenta 1 and 2 were extracted with controlled traction and extraction of complete membranes-uterine cavity cleaning- hysterorraphy in 3 planes-contracted uterus was confirmed-annexes were reviewed, identifying a giant tumor right ovarian tube - excision of the same + fimbrectomy is performed, it is sent to pathology. Right ovary unscathed - strict control of hemostasis - left annex macroscopically normal. Cleaning of the abdominal cavity - unscathed bladder, complete white material count by nursing, cavity closure by planes: muscle, aponeurosis, subcutaneous cellular tissue and skin. Cleaning and dressing placement. The patient went to the postoperative area in stable conditions with strict control of his vital signs. She evolved favorably and was discharged 48 hours postoperatively.

Post-surgical laboratory tests; leukocytes 9.29 hematocrit 35.1-hemoglobin-11, platelets 219, neutrophils 71.4 %, urea 22.64, creatinine 0.93, uric acid 8.12, total proteins 5.54, albumins 3.05, TGO (AST) 24.15, TGP (ALT) 14.3, LDH 240.26, total bilirubin 0.63, 24-hours protein of 632 mg.

Discharge control laboratories; leukocytes 7.69, hematocrit 33.6, hemoglobin 11.0, platelets 270, neutrophils 68.7, urea 23.73, creatinine 0.89, uric acid 8.18, TGO (AST) direct bilirubin-bc total bilirubin 22.0, TGP (ALT) 13.7, indirect bilirubin 0.63, sodium 140, potassium 4.3, chlorine 110.

Results

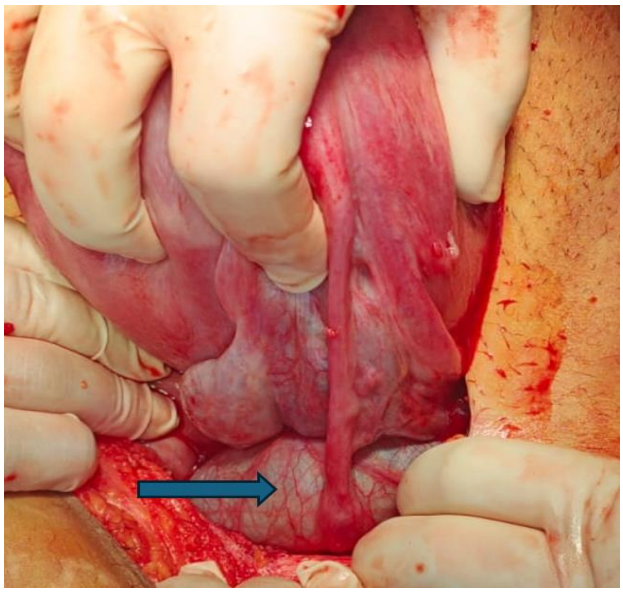


Figure 1 In the examination of adnexa, an abnormal mass attached to the right fallopian tube was observed, so it was decided to remove the mass completely to evaluate its real size

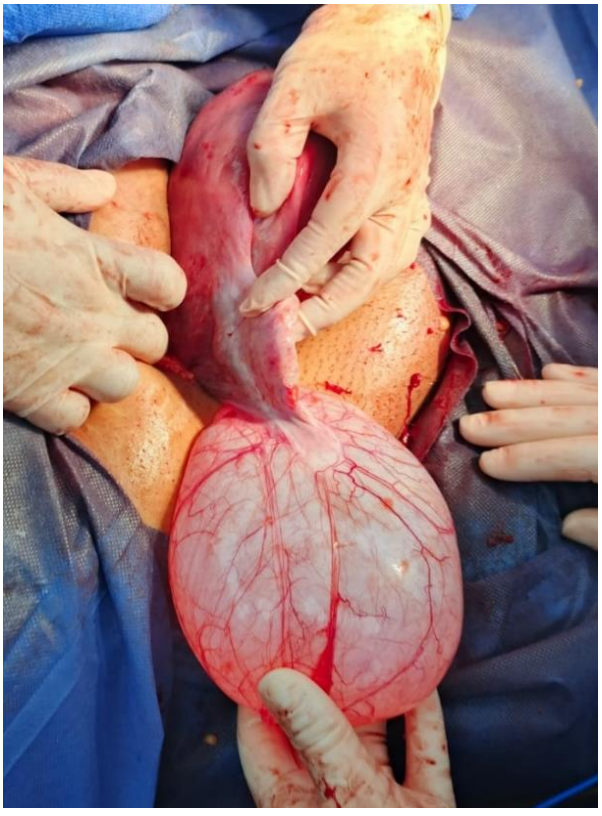


Figure 2 shows a mass corresponding to a right ovarian tube tumor of approximately 12x16 cm

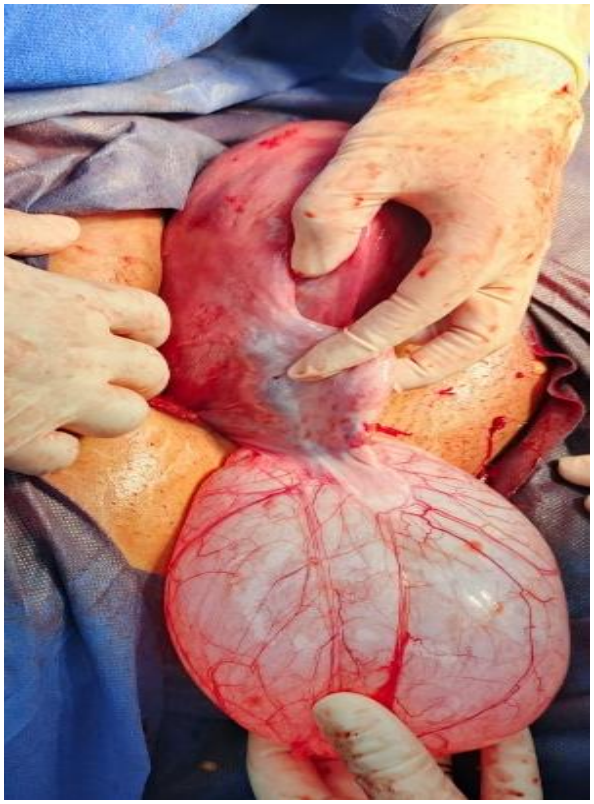


Figure 3 Vascularized tumor was observed in its periphery, it was extracted preserving the right ovary, surgery for fertility preservation, performing repair with chrome plating 2.0

Discussion

Giant intra-abdominal tumors are rare and represent a challenge in gynecology and obstetrics, this pathology should be treated by a multidisciplinary team that is familiar with the alterations in physiology that large tumors will produce, and patients should be treated in hospitals that have conditions and materials or areas available to manage any complication that may occur during the perioperative period[5].

Ovarian cancer is a constellation of several neoplasms instead of being a single disease, since in the face of evidence of a paraovarian tumor it is essential to remove it for histopathological study. In the case presented, a young woman with a twin pregnancy

and severe preeclampsia was evidenced, whose ovarian tube tumor was a finding during her cesarean section and whose pathology reported serous ovarian cystadenoma[12].

In this research, the literature refers to the case of a 15-year-old woman who presented a voluminous mass in the abdomen and pelvis. Initial clinical and radiological examination indicated an ovarian cyst approximately 25 × 20 cm. However, exploratory laparotomy revealed a giant paratubal cyst that was successfully treated by complete excision using fertility-sparing surgery. Histopathological examination was consistent with serous cystadenoma. The postoperative period passed without complications and the patient was discharged on the seventh day. After a follow-up of 6 months, the patient was in good condition. Compared to the case presented, our patient never had an ultrasound diagnosis of the tumor, probably due to uterine growth due to twin pregnancy[7].

Paratubal cysts are generally small, but there are rare cases of large paratubal cysts, such as the one presented in our patient who measured 16 x 12 cm[7].

In contrast to the literature, he reports another case of a young woman who presented abdominal discomfort for 3 months. On the examination, they observed a huge mass (25 x 25 cm) extending from the symphysis pubis to the xiphoid of the sternum. Ultrasound revealed a cystic mass of 27 x 27 cm. During the operation, the cyst was paratubal. They drained with a Veress needle and performed a laparoscopic cystectomy[10].

Another case of a 27-year-old female patient who was admitted to the Hospital was evidenced, due to progressive abdominal pain and increase in volume in the right iliac fossa with 4 days of evolution. He did not present nausea, vomiting or fever. Physical examination revealed a hard, mobile, and painful mass in that region. Abdominal ultrasound revealed a heterogeneous lesion measuring 16.9 x 10.2 x 13.8 cm (volume 1264 mL) that was compressing and displacing neighboring organs. During exploratory laparotomy, a 10 x 8 cm lesion dependent on the right ovary was identified, accompanied by multiple endometriotic foci. Histopathological diagnosis confirmed an infarcted serous cystadenoma with extensive areas of hemorrhage and organized thrombosis. The patient evolved favorably[13].

There are risk factors for the development of ovarian cancer, such as age, white race, infertility, and a history of breast, colon, or endometrial cancer[14].

Giant serous cystadenoma is a rare benign tumor whose diagnosis is based on physical examination and imaging studies, such as the O-RADS classification. It generally manifests with compressive symptoms that require surgical removal[13]. The present case was presented in a pregnant woman who was pregnant with twins who came to the hospital with high blood pressure levels, so she was admitted with a diagnosis of preeclampsia and remained in a high-risk obstetric room under strict maternal-fetal monitoring, however, after 24 hours of hospitalization she presented high blood pressure levels despite maintaining a double antihypertensive scheme at high doses therefore, she was surgically operated on with an emergency cesarean section, among the findings a giant ovarian tube tumor was evidenced that was removed with fertility preservation, the histopathological examination revealed a serous ovarian cystadenoma, it should be noted that in no ultrasound control they reported the presence of an adnexal tumor.

Conclusion

Ovarian tumors are pathological restructures that can be benign or malignant according to their histopathological characteristics. A timely diagnosis and treat-

ment must be carried out to determine the type of adnexal tumor presented by patients, mainly those who are in the reproductive stage. The initial diagnosis is made by ultrasound and, in case of greater complexity, by nuclear magnetic resonance, being a challenge in gynecology its detection when accompanied by a twin pregnancy, whose complications, regardless of the state of gestation, can be torsion, rupture and hypovolemic shock, representing a condition of high morbidity and mortality. In the present case, a giant ovarian tube tumor was located that was not diagnosed during prenatal control; it can generate complications, and was detected as a finding during cesarean section, being necessary the removal of it in the transoperative period, determining histopathological result of serous cystadenoma, with a good maternal and fetal prognosis.

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Conflicts of interest

The authors declare that they have no conflict of interest.

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Ethical considerations

For this publication, authorization was requested from the patient by signing an informed consent.

Limitations in research

None.

Publishing permissions

A document signed by the patient authorizing the publication of the clinical case is attached.

Identification of the responsibility and contribution of the authors in the article

The authors declare to have contributed to the original idea (*María Calderón*), research design (*Ana Vélez Suarez*), data collection (*Rosa Romero, Angela Endara, Rogger Chinga*), data analysis (*María Calderón, Ingrid Carranza, Diego Raphael Nagua Blanca*), draft writing and article writing (*María Calderón, Ana Vélez Suarez, Rosa Romero, Angela Endara, Rogger Chinga, Ingrid Carranza Figueroa, Diego Nagua*).

Use of artificial intelligence

We assume that the entire document was written based on ethical and professional criteria, and AI was not used to make the images or text.

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