

Ovarian Torsion in The Third Trimester of a Twin Pregnancy: A Case Report

İkiz Gebeliğin Üçüncü Trimesterinde Over Torsiyonu: Olgu Sunumu

Deniz Kulaksız^{1*}, Kübra Baki Erin¹, Recep Erin¹, Yesim Bayoglu Tekin¹, Ecenur Arslan Reis¹

¹University of Health Sciences, Kanuni Training and Research Hospital, Department of Obstetrics and Gynecology, Trabzon, Turkey

* Corresponding author e-mail: drdenizkulaksiz@hotmail.com

¹<https://orcid.org/0000-0003-2351-1367>

²<https://orcid.org/0000-0002-6626-1735>

³<https://orcid.org/0000-0002-9488-5414>

⁴<https://orcid.org/0000-0003-0865-3201>

⁵<https://orcid.org/0000-0002-3332-3151>

ABSTRACT

During pregnancy, ovarian torsion (OT) occurs at a rate of 1 to 5 per 100,000 and is extremely uncommon. There is only one case report of OT occurring in a third-trimester, twin pregnancy. In the present case, a 30-year-old female patient whose first pregnancy was dichorionic diamniotic and at 30 weeks of age was admitted to our emergency service with the complaint of chronic pain. The patient had a history of spontaneous pregnancy and an increase in carcinoembryonic antigen level was found in her biochemical indicators. Magnetic resonance imaging and Doppler ultrasound indicated OT, therefore she had surgery that involved making a midline incision under the umbilicus. Both ovary and tuba uteri were removed as they were necrotic and twist on the right side of the adnexa. No complications developed following the surgery and pathology showed mucinous cyst adenoma. The most common causes of abdominal pain in the third trimester are gas, constipation, Braxton-Hicks, urinary tract infection, appendicitis, and preeclampsia. Although OT is extremely rare in the third trimester of spontaneous twin pregnancies, it should be considered in the differential diagnosis.

Keywords: Torsion, Twin pregnancy, Third trimester

ÖZET

Hamilelik sırasında over torsiyonu (OT) 100.000'de 1 ila 5 oranında meydana gelir ve oldukça nadirdir. Üçüncü üç aylık dönemde, ikiz gebelikte meydana gelen OT ile ilgili yalnızca bir vaka raporu vardır. Bizim olgumuzda 30 yaşında, ilk gebeliği olan dikoryonik diamniyotik 30 haftalık kadın hasta, kronik ağrı şikayeti ile acil servisimize başvurdu. Spontan gebelik öyküsü olan hastanın biyokimyasal göstergelerinde karsinoembriyonik antijen düzeylerinde yükseklik saptandı. Manyetik rezonans görüntüleme ve Doppler ultrason OT lehineydi, bu nedenle göbek altında orta hat insizyonu ile ameliyat edildi. Hem yumurtalık hem de tuba uteri, nekrotik olduklarından ve adneksin sağ tarafında büküldüklerinden dolayı çıkarıldı. Ameliyat sonrası herhangi bir komplikasyon gelişmedi ve patoloji müsinöz kist adenomu olarak geldi. Üçüncü trimesterde karın ağrısının en yaygın nedenleri gaz, kabızlık, Braxton-Hicks, idrar yolu enfeksiyonu, apandisit ve preeklampsidir. Spontan ikiz gebeliklerin üçüncü trimesterinde OT oldukça nadir olmakla birlikte ayırıcı tanıda gözönünde bulundurulmalıdır.

Anahtar Kelimeler: Torsiyon, İkiz gebelik, Üçüncü trimester

Geliş Tarihi/Received Date: 08.01.2023

Kabul Tarihi/Accepted Date: 15.01.2023

INTRODUCTION

Ovarian torsion (OT) is the rotation of the pedicle, which contains the arterial and venous vessels of the ovary, on its axis in a partial or full turn, preventing blood flow. OT can damage women of any age, and early surgical treatment has the potential to preserve ovarian and tubal functions.¹ OT is rarely reported in the third trimester in singleton pregnancies. There was only one case in which they reported OT in spontaneous twin pregnancy in the third trimester.²

CASE REPORT

A 30-year-old dichorionic diamniotic pregnant woman who had her first pregnancy was admitted to our hospital with persistent pain in the right upper quadrant. After evaluation in another obstetrics clinic, the pregnant case was referred to our hospital, which is a tertiary hospital, to investigate other urological and surgical causes. The patient had no complaints of nausea or vomiting, and her vital signs were normal. There was tenderness in the right upper quadrant, but no signs of defense were seen on the abdominal examination. The patient had no history of previous abdominal surgery. In the non-contrast abdominal MRI examination of the patient, no finding in favor of appendicitis and renal stones were detected. The value of the carcinoembryonic antigen was 16 ng/mL. Furthermore, other blood and urine tests showed normal results (Table 1). A 5-centimeter cyst was detected in the patient's right ovary two years ago. A mass with features compatible with an ovarian cyst was detected in the right upper quadrant (Fig. 1). Ultrasonography (USG) showed viable, dichorionic diamniotic twin pregnancy compatible with 30 weeks gestation. A septal cyst of 80.6 x 73.3 mm was detected in the ovary in the right upper quadrant (Fig. 2). No blood flow was detected in the ovarian Doppler ultrasound examination. No contraction was detected in cardiotocography. Cervical length was safe on ultrasound. The patient with acute abdominal pain and suspected right OT was operated with a midline incision under the umbilicus. Tocolysis was not applied before and during the operation. Torsion occurred in the adnexa on the right. The right ovary was found to have a mass of around 8 centimeters in diameter. It had rotated around itself for about 4 turns. Right salpingo-oophorectomy was performed because of the appearance of necrosis and tumor suspicion (Fig. 3 & Fig. 4). The operation time lasted 20 minutes in the

patient who underwent spinal anesthesia. During the postoperative follow-up, we did not find any signs of complications. During the pathological investigation, the presence of a mucinous cyst adenoma was found.

DISCUSSION

OT is encountered at a rate of 1 to 5 per hundred thousand during pregnancy and is very rare.³ Smits et al reported the rate of spontaneous twin birth as 0.6% to 2.79%, and the rate of twin birth among those who underwent assisted reproductive technology was 6.8% to 8.44%.⁴ In the literature, OT has been reported in the third trimester in a twin pregnancy obtained by assisted reproductive techniques.⁵ In the present case, ovarian torsion was observed in a spontaneous twin pregnancy case. Most of the patients with ovarian torsion (80%) have an ovarian mass larger than 5 cm and it is the most important risk factor.¹ In the current case, the patient had a history of ovarian cysts. Therefore, it is likely that this may have been the main risk factor in the development of ovarian torsion. OT gives similar clinical findings to non-pregnant women in pregnant women.⁶ The most common clinical findings are pelvic pain, ovarian mass, nausea, vomiting, and fever.⁷ Nausea, vomiting, and fever were not observed in the present case, and severe abdominal pain and pelvic mass were detected. USG and MRI are the imaging methods used in differentiating the main causes of acute abdomen (appendicitis, ovarian cyst rupture, and degenerated myoma).⁸ A high sensitivity (76-100%) and specificity (94-100%) can be achieved with abnormal Doppler USG in the diagnosis of OT.⁹ In the present case, ovarian blood flow was not observed in the patient. Management is like non-pregnant women, but it may not be easy to operate laparoscopically when a pregnant uterus is considered.¹⁰ In the present case, laparotomy was preferred because it was in the third trimester of pregnancy and because it was a twin pregnancy. In the third trimester of a patient who was pregnant with twins, a midline surgical incision was made under the umbilicus because the position of the ovary could shift. The midline incision was necessary to provide the surgeon with a clear view of the operative field, allowing them to identify and protect any nearby organs that might be at risk during the surgery. OT has been reported in the current literature in a third trimester pregnant woman with spontaneous twin pregnancy.² In the described case, no mass was observed in the ovary, only detorsion was applied. After the detorsion was

applied, the patient was monitored closely and discharged with a follow-up plan.

Table 1. Analysis of blood and urine samples at the time of admission to the hospital

	Result	The reference range
Leukocyte (K/uL)	10.7	3.7 - 10.1
Hemoglobin (g/dL)	10.4	12 - 17
Hematocrit (%)	30.9	37 - 54
Platelet (K/uL)	178	100 - 400
C reactive protein (mg/L)	8.31	0 - 5
Creatine (mg/dL)	0.39	0.57 - 1.11
Total bilirubin (mg/dL)	0.37	0.2 - 1.2
Direct bilirubin (mg/dL)	0.14	0 - 0.5
Carcinoembryonic antigen (ng/ml)	16	0 - 2.5
Urine protein	negative	
Urine ketone	1+	
Urine nitrit	negative	
Urine leukocyte	negative	
Urine erythrocyte	negative	



Figure 2. Septal cyst in the right ovary on ultrasound examination



Figure 3. Necrosis of the right adnex

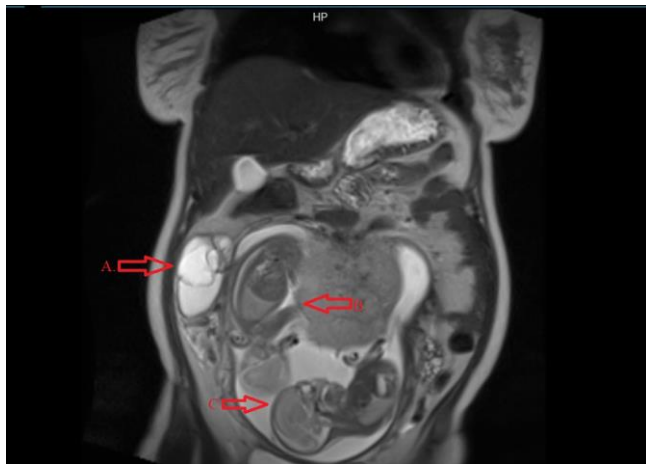


Figure 1. In non-contrast MR examination, A. Right ovarian mass, B. Upper fetus, C. Lower fetus

CONCLUSION

The most common causes of abdominal pain in the third trimester are gas, constipation, Braxton-Hicks, urinary tract infection, appendicitis, and preeclampsia. OT in the third trimester of a twin pregnancy is uncommon, but it should be considered in the differential diagnosis. Despite the relative rarity, it is important to be aware of this possibility.



Figure 4. Right ovary and tuba uterina

Authorship contribution statement

Concept and design: D.K., E.A.R.

Acquisition of data: D.K., E.A.R.

Analysis and interpretation of data: D.K., K.E.

Drafting of the manuscript: D.K., K.E., R.E.

Critical revision of the manuscript for important intellectual content: R.E., Y.B.T.

Supervision: Y.B.T.

Declaration of competing interest

None of the authors have potential conflicts of interest to be disclosed.

Availability of data and materials

All data generated or analyzed during this study are included in this published article.

Funding

No financial support was received for this research.

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To Cite: Kulaksız D, Baki Erin K, Erin R, Bayoglu Tekin Y, Arslan Reis E. Ovarian torsion in the third trimester of a twin pregnancy: a case report. 2023; 2(1): 22-25.