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## International Journal of Surgery Case Reports

journal homepage: [www.casereports.com](http://www.casereports.com)

## Isolated adnexal torsion in a 20-week spontaneous twin pregnancy



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## ARTICLE INFO

## Article history:

Received 22 March 2016

Received in revised form 9 April 2016

Accepted 18 April 2016

Available online 20 April 2016

## Keywords:

Torsion

Pregnancy

Laparoscopy

Adnexal

## ABSTRACT

**BACKGROUND:** Adnexal torsion can be a life-threatening condition in pregnancy, while the risk of late diagnosis is increased, in second and third trimester in particular. Laparoscopy is an effective approach in diagnosis and treatment of adnexal torsion. However, entry to abdomen may be challenging in more advanced pregnancies.

**CASE REPORT:** Herein, we report a case of adnexal torsion during 20th week of twin pregnancy, which was detorsioned laparoscopically. The woman delivered healthy infants at her 36th week of pregnancy.

**DISCUSSION:** Adnexal torsion as a cause of acute abdomen may be kept in mind in pregnant, even if there is no predisposing factor. Laparoscopy may be performed safely in 2nd trimester for acute abdomen.

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## 1. Introduction

Ovarian torsion (OT) is a rare condition diagnosed in pregnancy, with an incidence of 1–10 in 10,000 pregnancies [1]. Adnexal torsion may be a life-threatening condition and may cause loss of ovary because of interruption in ovarian blood flow, in cases with late diagnosis in particular. In pregnancy, the clinical symptoms are non-specific, may delay the diagnosis and could be confused with other acute abdomen conditions, such as acute appendicitis, cholecystitis and renal colic. Furthermore, it is not always possible to find a predisposing factor such as hydrosalpinx or adnexal mass in gynecologic exam in pregnant patients. One should remember that, the more bigger the uterus, the more difficult the localization of the adnexa.

We present a rare case of ovarian torsion in a 20-week spontaneous twin pregnant without any predisposing factor with the successful outcome after laparoscopic untwisting.

## 2. Case report

A 32-year-old, primigravida was seen at emergency obstetric unit of our hospital in the 20th week of her gestation, because of right lower abdominal pain of 24 h. Patient's medical history was unremarkable. Her vital signs were within normal limits. Physical examination revealed a tenderness and pain in the right lower quadrant up to the level of umbilicus. No cervical discharge was seen on speculum examination. On pelvic examination,

right adnexal tenderness was noted. The patient's presentation was concerning for acute abdomen. The haematological and biochemical examination were within normal limits. Transabdominal ultrasonography demonstrated two viable, in utero fetuses, both compatible with 20-week gestation and with normal amniotic fluid volume and a normal placenta. Furthermore, the right ovary was measured as 64 × 45 × 28 mm and no blood flow was detected on color and power Doppler ultrasound of the right ovary.

The patient emergently underwent surgery with the presumed diagnosis of an ovarian torsion after 3 h of admission to hospital. An insufflation needle were inserted through left upper quadrant in the midclavicular line, 2 cm beneath the costal margin (Palmer's point) into the peritoneal cavity. We preferred to insufflate to 20 mm Hg for positioning the cannulas. A 10-mm trocar was introduced from Palmer's point and a secondary trocar was inserted in the right-upper abdominal quadrant (Fig. 1). After placement of the cannulas, the pressure was dropped to 10 mm Hg. Laparoscopy showed a twisted twice, necrotic appearing right ovary (Fig. 2a–b). Detorsion of the right adnexa was carefully performed and an improvement in color and a decrease in edema of the ovary was observed (Fig. 2c). However, color of the right tuba uterina did not change (Fig. 2d). Patient tolerated the procedure well and was discharged on the first day after surgery with a viable pregnancy. 17-hydroxyprogesterone caproate 250 mg intramuscular was administered weekly until 34th week of gestation to prevent preterm delivery. On the 36th week of her pregnancy, she underwent cesarean section for severe preeclampsia and delivered healthy infants.

## 3. Discussion

Ovarian torsion in pregnancy is usually seen in first trimester. Corpus luteum cysts or ovarian hyperstimulation were considered

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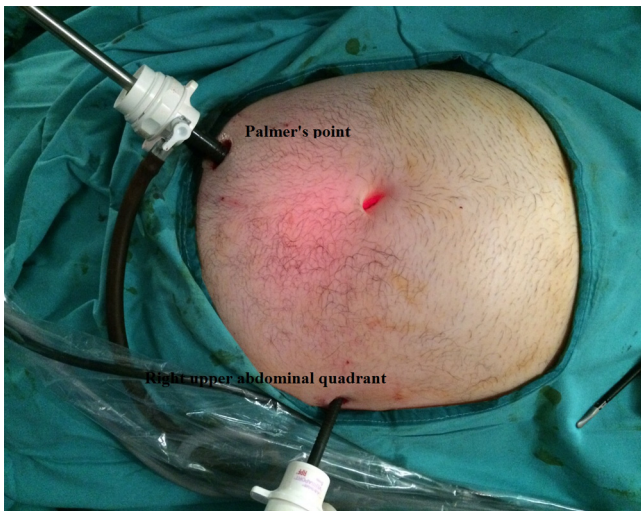


Fig. 1. Sites of trocar insertion.

as the main risk factors in that period. However, some authors reported cases of ovarian torsion in second or third trimester and suggested that persisting ovarian cysts as the main risk factor [2,3]. Our patient had spontaneous twin pregnancy and had no history of ovarian hyperstimulation in her first trimester. Additionally, we could not find any predisposing factor on her examination. Acute abdomen signs on right lower quadrant and mild, diffuse right ovarian enlargement were suspicious to adnexal torsion.

Laparoscopy is a safe and effective approach in treatment of adnexal torsion in pregnancy without any harm to mother or fetus [4]. Compared to laparotomy, laparoscopy may be better

tolerated through minimal postoperative discomfort and the avoidance of a scar in the presence of a growing abdomen [2]. However, laparoscopy in second or third trimester has some difficulties, such as entry to the abdomen without any damage to the enlarged uterus, or cardiovascular and respiratory alterations during the pneumoperitoneum [5]. As in our case, during advanced pregnancy, we think that entry from Palmer's point to the abdomen is the optimal option.

The Guidelines Committee of the Society of American Gastrointestinal and Endoscopic Surgeons (SAGES) has recommended intraabdominal insufflation pressure be maintained at 10–15 mm Hg [6]. Based on this recommendation, the intraabdominal pressure was kept between 8 mm Hg–12 mm Hg during the operation.

Cystectomy should be performed in cases with an ovarian cyst as a cause of adnexal torsion. Because, there was no ovarian cyst in our case, we only detorsioned the adnexa. Other controversial issue is oophoropexy or shortening of the utero-ovarian ligament to prevent recurrence of adnexal torsion [7]. In our case, edema of the ovary was decreased in ten minutes after detorsion. Therefore, we did not perform fixation. One advantage to prevent perinatal complication was avoiding any energy source during laparoscopy. After detorsion of the right adnexa, we waited for 10 min and hoped any change in color of the tuba and the ovary. However, the right tuba uterina remained with necrotic appearance. Nonetheless, results from case series showed that the adnexa does not have to be removed even if there is apparent necrosis, while normal ovarian function can be preserved [8].

In conclusion, adnexal torsion should be suspected in a pregnant women with an acute abdomen regardless of gestational week, even without a predisposing factor. Laparoscopy is the main approach even in case of an enlarged uterus.

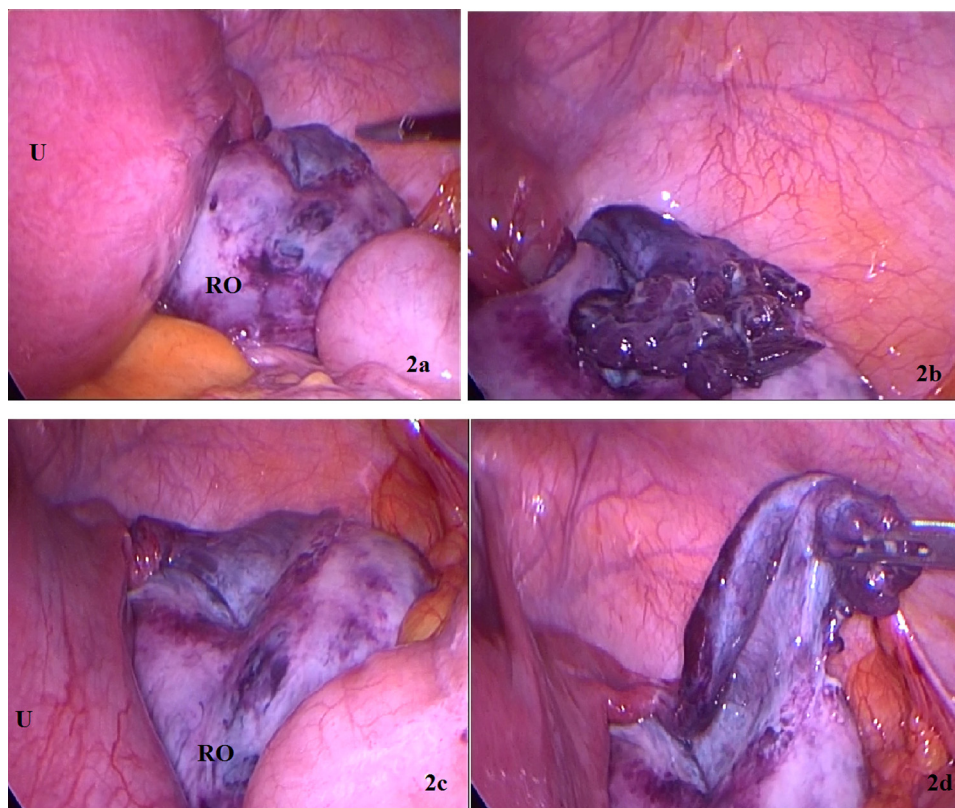


Fig. 2. (a) Laparoscopic view of the torsioned right ovary. (b) Torsioned right tuba uterina with a necrotic appearance. (c) Right ovary, ten minutes after detorsion. (d) Right tuba uterina, ten minutes after detorsion.

**Conflict of interest**

Authors declare that they have no conflict of interest.

**Funding**

There is no source of funding for this report.

**Ethical approval**

Case report did not require ethical approval. Written informed consent form was obtained from patient.

**Consent**

Written informed consent form was obtained from patient.

**Author contribution**

Ilker Kahramanoglu: Data collection, writing the paper, literature search.

Vasfiye Eroglu: Data collection.

Hasan Turan: Writing the paper.

Gizem Kaval: Data collection.

Veysel Sal: Literature search.

Nedim Tokgozoglu: Editing the language.

**Guarantor**

Ilker Kahramanoglu.

**Acknowledgement**

None.

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