Türk Kadın Sağlığı ve Neonatoloji Dergisi

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Case Report

Torsion, infarction, and rupture of an ovary: A rare complication of recurrent ovarian torsion

Tekrarlayan over torsiyonun nadir bir komplikasyonu olarak over torsiyonu,enfarktüsü ve rüptürü olgusu

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Abstract

Ovarian torsion is a gynecological emergency generally affecting women of reproductive age, and urgent surgical intervention is required to preserve ovarian function. Recurrent ipsilateral ovarian torsion is rarely seen but may cause a severe decrease in reproductive capacity. Different surgical techniques have been described to prevent this. The case presented here is of a 26-year old female with recurrent ipsilateral ovarian torsion, complicated by an ovarian rupture in the third episode of torsion.

Keywords: Ovarian fixation; ovarian function; ovarian rupture; ovarian torsion; recurrent ovarian torsion; reproductive outcome

Öz

Over torsiyonu, genellikle üreme çağındaki kadınları etkileyen jinekolojik bir acil durumdur ve over fonksiyonunu korumak için acil cerrahi müdahale gereklidir. Tekrarlayan ipsilateral over torsiyonu nadiren görülür ancak üreme kapasitesinde ciddi bir azalmaya neden olabilir. Bunu önlemek için farklı cerrahi teknikler tarif edilmiştir. Burada sunulan vaka, üçüncü kez torsiyon olan ve over rüptürü ile komplike olan tekrarlayan ipsilateral over torsiyonu olan 26 yaşında bir kadına aittir.

Anahtar Kelimeler: Over fiksasyonu; over fonksiyonu; over rüptürü; over torsiyonu; tekrarlayan over torsiyonu; reprodüktif sonuçlar

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1. Introduction

Ovarian torsion is the fifth most commonly seen gynaecological emergency that affects all age groups, generally seen in adolescence and women of reproductive age. The reported prevalence was 2.7-3% (1). Ovarian torsion is defined as the rotation of the ovary on its ligamentous supports, often leading to interruption of the blood supply and necrosis in some cases. Therefore, if timely intervention is not made, ovarian ischaemic changes may cause ovarian necrosis and poor fertility outcomes (2).

Due to the absence of specific clinical findings and imaging methods, ovarian torsion is usually diagnosed late. Torsions generally occur on one side and once only. However, recurrence in the same ovary or both ovaries is possible, and the rate of recurrent ovarian torsion has been reported to be 16.5% (3). Recurrent torsions can reduce reproductive capacity. Several conservative methods can be used to decrease the risk of recurrence. ''Triplication'' of the uteroovarian ligament where the ligament is plicated and shortened with a running stitch; ovariopexy, where the ovary is sutured to the posterior of the uterus or the lateral pelvic wall; and oophoropexy, where the utero-ovarian ligament is sutured either to the posterior of the uterus or to the lateral pelvic wall are well-known methods to reduce the risk of retorsion (4). However, the efficacy of fixation procedures applied to prevent ovarian retorsion is not clear (5). The case presented here is of a 26-year old female with recurrent ipsilateral ovarian torsion, complicated by an ovarian rupture in the third episode of torsion.

2. Case Report

A 26-year-old multigravid female presented with acute onset 14 hours previously of left flank pain, nausea, and vomiting. There was a history of two previous left ovarian torsion occurrences, the first of 24 months ago and the second 5 months ago. The patient had been applied with laparoscopic ovarian detorsion by different surgeons on each occasion, the torsion had recurred, and no ovarian fixation method had been applied. There are no additional predisposing factors like a history of an ovarian cyst and polycystic ovary syndrome (PCOS), ovulation induction. Pelvic ultrasonography revealed that the dimensions of the left ovary were increased to approximately 7 x 8 cm, the follicles were located peripherally, and there was no cyst or mass in the left ovary, the left ovary surface was seen to be smooth and edematous, and no intra-abdominal fluid was determined (**Figure 1a**). The other ovary was normal in appearance. Also, decreased blood flow in the left ovary.

The abdomen was soft, with mild tenderness in the left lower abdomen on physical examination. Vital signs were within normal limits. The laboratory test results were average. b-hCG was negative. After that, the diagnosis was made of ovarian torsion. An emergency laparotomy was planned because the patient presented during the Covid-19 pandemic and had not been tested.

Pfannenstiel incision was applied, 500cc fresh blood was observed. Also, the haemorrhage was seen to continue. The intraoperative findings confirmed left ovarian torsion, and it was found to be twisted around three times. The left ovary was observed to be ruptured, it was actively bleeding and necrotic, and the appearance was edematous. The left infundibulopelvic ligament was approximately 10cm in length, and there was observed to be an ovarian ligament of increased length. No cyst or mass was observed in the left ovary. The case was complicated by ovarian rupture thought to be associated with recurrent torsion and intense oedema in the left ovary. The ruptured necrotic and edematous left ovary did not improve, and as the bleeding was observed from the ovary, it was decided to perform a left-salpingo-oophorectomy (**Figure 1b**). The pain resolved ultimately after the surgery, and the final pathological diagnosis was extensive ovarian oedema and haemorrhage (**Figure 1c**). The patient was discharged on the second postoperative day.

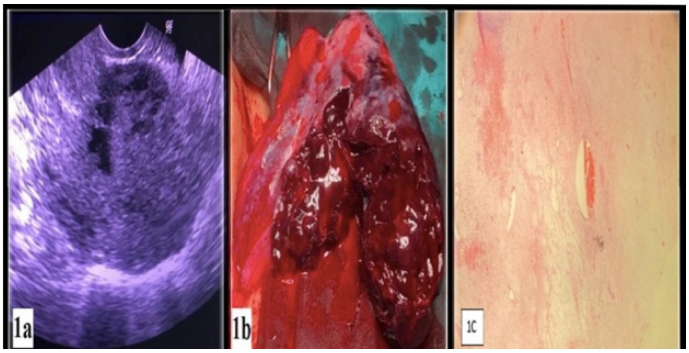

Figure 1: 1a: Preoperative ultrasound image **1b:** Intraoperative view of the ruptured necrotic and edematous left ovary **1c:** Histopathology image of diffuse ovarian edema and bleeding

3. Discussion

Ovarian torsion often occurs only once on one side; however, recurrence in the same ovary or both ovaries is possible, and information related to recurrent ovarian torsion is minimal. There are no reports of the complication of ovarian rupture associated with previous recurrent adnexal torsion in the literature. We report a rare case with recurrent ipsilateral ovarian torsion and complicated by an ovarian rupture due to massive ovarian oedema in the third torsion episode.

Most adnexal torsion cases are related to an underlying adnexal pathology; however, the ovaries are normal in 8-18% of cases (5). In the absence of an adnexal mass or cyst, ovarian torsion aetiology is not exact (3). Mobility due to a long ovarian ligament, mesosalpinx, or mesovarium is found as a reason in many studies. In the current case, no underlying adnexal pathology was observed, but intraoperatively, the left infundibulopelvic and ovarian ligaments were observed to be longer than usual. Tamir et al. found a correlation between longer ovarian ligament length and ovarian torsion (6). In addition, there is a higher probability of torsion on the right side, which is thought to be probably because the infundibulopelvic ligament is longer on the right and the presence of the sigmoid colon preventing torsion on the left (7). In the current case, contrary to expectations, left-side ovarian torsion had occurred three times.

The incidence of recurrent ovarian torsion has been reported in the literature as 8.7-28.6% (3). Smaller ovarian size, polycystic ovary, and ovaries without specific findings have been reported as risk factors for recurrent adnexal torsion (3). A delayed diagnosis of ovarian torsion leads to necrosis, loss of the affected ovary, sepsis and reduced reproductive capacity. Thus, recurrent torsions severely reduce reproductive capacity. In addition, there may be the complication of ovarian rupture, as in the current case, which can cause the ovary's loss. Although there is no method to prevent primary adnexal torsion, by determining the risk factors leading to recurrent torsion, procedures such as ovarian fixation and ovarian ligament shortening can be applied to prevent it (8,9). To prevent adverse outcomes of recurrent ovarian torsion, fixation procedures should be applied, even bilaterally, in the first torsion event. However, fixation procedures can not eliminate the risk of repeated torsion, and the rate of recurrent torsion after fixation has been reported to be 9.5% (1). Moreover, these procedures reduce adnexal blood flow and affect tubes; these may theoretically put the reproductive system in danger—however, no long-term results related to this subject.

In conclusion, ovarian torsion affects women of reproductive age and requires urgent surgical treatment. Cases that present late and have a history of recurrent torsion may be complicated by ovarian rupture. If long ovarian ligament and infundibulopelvic ligament are observed in the first diagnosis, ovarian fixation methods can be applied to prevent a subsequent torsion attack.

Informed Consent Statement: A written and informed consent was received from the patient (H.A) informing her about the publication of case .

Declaration of Interest

The authors report no conflicts of interest.

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