



Conservative Laparoscopic Treatment in Isolated Tubal Torsion in a Young Patient

Fatih Şanlıkan^{1*}, Ahmet Göçmen¹, Muhittin Eftal Avcı² and Oğuz Arslan¹

¹Departments of Obstetrics and Gynecology, Ümraniye Education and Research Hospital, Istanbul, Turkey.

²Department of Perinatology, Aegean Obstetrics and Gynecology Training and Research Hospital, Yenisehir, Izmir, Turkey.

Authors' contributions

This case report was carried out in collaboration between all authors. Authors FS and AG designed the concept of the case and author FS wrote the first draft of the manuscript. Authors MEA and OA managed the literature searches. All authors read and approved the final manuscript.

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Case Study

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ABSTRACT

Aim: Isolated tubal torsion is a rare entity in young women. To represent a case of conservative laparoscopic treatment in isolated tubal torsion in a young patient.

Presentation of Case: A 20-year-old virgin woman who had acute right lower quadrant of abdominal pain and nausea underwent diagnostic laparoscopy with subsequent detorsion of the involved fallopian tube in a tertiary care medical center.

Discussion: The treatment modality of tubal torsion in most of the reported cases during initial surgery or at the time of recurrent torsion after detorsion was salpingectomy.

Conclusion: Conservative treatment option that is laparoscopic detorsion which should be preferred especially in young patients to preserve the tubo-ovarian function.

Keywords: Isolated tubal torsion; laparoscopic detorsion.

*Corresponding author: Email: fatihroland@hotmail.com;

1. INTRODUCTION

Adnexal torsion is described as the total or partial rotation of the adnexa around its vascular axis. Adnexal torsion is an infrequent condition although it is an important cause of acute abdomen in females of the reproductive age group. Isolated fallopian tube torsion is an uncommon condition termed as the torsion of the tube around itself unassociated with ovarian abnormality. The incidence of isolated tubal torsion is estimated to be one in 1.5 million women [1]. The clinical signs symptoms may mimic many causes of acute abdomen such as acute appendicitis, ectopic pregnancy. Due to the difficulty in the diagnosis of tubal torsion caused by nonspecific clinical signs and imaging modalities, in most of the patients, exact diagnosis can be made at the time of surgical intervention.

There are many case reports in the literature including isolated tubal torsion. However, the treatment modality in most of the cases during initial surgery or at the time of recurrent torsion after detorsion was salpingectomy [2]. In this case, we reported conservative treatment option that is laparoscopic detorsion which should be preferred especially in young patients.

2. PRESENTATION OF CASE

A 20-year-old, virgin patient was admitted to our clinic with nausea and acute pain on right lower quadrant of abdomen. The abdominal ultrasound examination revealed the presence of an anechoic cystic mass (80x 77x 63 mm in size) at the right paraovarian area through the cul-de-sac. Free fluid that exceeded the physiological level was detected at the periphery of the cyst. There was no remarkable sign at her past medical history. The transvaginal ultrasound was not performed due to virginity. At the time of admission, complete blood count showed a white cell count 7.36×1000 with 70% neutrophils. The liver and kidney function tests were in normal limits. There was no electrolyte imbalance and tumor markers were normal. On physical examination, abdominal tenderness especially on the right lower quadrant was found. Remarkable abdominal defense and rebound were not detected. The patient has a blood pressure 110/70 mm Hg, heart rate 88/ min and body temperature 36.6°C .

During the follow up of the patient, two hours after the admission, the voluntary defense and

rebound on the right lower quadrant of abdomen came in view gradually but there was no meaningful change in her laboratory tests and vital signs. There was a slight increase in the symptom of vomiting. The abdominal tenderness and defense became more remarkable. Due to the worst change in the clinical status of the patient, surgical intervention was decided.

During the laparoscopic surgery, the left ovary and the fallopian tube was observed normally. On the right side, there was a paraovarian cyst, which was 7x7 cm diameter in size. The right fallopian tube was torsioned around its vascular pedicle four times and the appearance of the right tube was purple in color (Fig. 1). The torsioned tube was detorsioned. The change in the color of the tube was observed about ten minutes and finally its appearance became almost normal. After this, the paraovarian cyst was excised laparoscopically. The pathological examination revealed mesothelial cyst including hemorrhagic infarction. The postoperative course of the patient was uneventful and the patient was discharged from hospital at post operative day two. The patient was married after 6 months of surgery and we checked the tubal patency with hysterosalpingography and the normal passage from both tubes were observed. During the one year follow up of the patient, there was no recurrence.

3. RESULTS AND DISCUSSION

Isolated tubal torsion is a rare entity and comprises a minor group among etiologies of abdominal or pelvic pain in adolescents. The etiology of the tubal torsion is still uncertain although some considerations thought to be the causative factors. Proposed intrinsic and extrinsic etiologic factors include pelvic inflammatory disease, hydrosalpinx, prior tubal surgery, primary fallopian tube malignancy, endometriosis, prior pelvic surgery, gravid uterus, malignancy or tumor of the adjacent structures and paraovarian or paratubal cysts [3]. In our case, the only remarkable etiologic factor may be the paraovarian cyst.

There are some considerations about the mechanism of the tubal torsion. Mechanical disturbance, venous obstruction, lymphatic congestion, diffuse edema, tubal enlargement were reported as the mechanism of the torsion.

The distal obstruction of the tube may cause the hydrosalpinx and the various precipitating



Fig. 1. A. The appearance of the torsioned right fallopian tube around its vascular pedicle four times, B. After detorsion, laparoscopic view of the involved tube, C. The color change of the tube after detorsion

etiologies cause the torsion of the tube. However, it is not clear that the hydrosalpinx occurs before or after the torsion [4]. The right tube is more prone to torsion than the left tube due to the stabilizing effect of the sigmoid colon [5]. In our patient, we observed the torsion in the right side.

The clinical signs and symptoms may mimic many cause of acute abdomen such as acute appendicitis, ectopic pregnancy, urolithiasis and so on. Therefore, torsion should be considered in the differential diagnosis of acute abdomen. Due to the difficulty in the diagnosis of torsion caused by nonspecific clinical signs and imaging modalities, the accurate diagnosis should be made immediately to prevent further complications such as peritonitis or losing the function of the involved adnexa. Isolated fallopian tube torsion should be considered in the differential diagnosis who demonstrates a cystic mass in midline position (in either the cul-de-sac or superior to the uterus) associated with a normal ipsilateral ovary [6].

Historically, the classical treatment modality in management of the adnexal torsion was salpingoophorectomy because it was suggested that thromboembolism and infection risk was increase when untwisting the adnexa. However, for untwisting an ovary when still viable, we have good evidence that it would continue functioning endocrinologically and for ovulation [7]. In the literature, in most of the cases, the type of treatment modality was salpingectomy interestingly [4]. Salpingectomy may cause infertility problem if the remaining tube becomes diseased by torsion, infection including appendicitis or ectopic pregnancy. It was shown that the ciliated cells of the fallopian tubes have

been found viable in half of the salpingectomy specimens in a relatively larger series of isolated tubal torsion [2]. In our patient, we performed hysterosalpingography and observed the normal patency of both tubes. The most important outcome of the detorsion of the involved tube is exactly the pregnancy. However, it is not clinically possible to confirm that the detorsioned tube is functionally normal during fertilization and transport of the embryo into the uterine cavity.

4. CONCLUSION

Untwisting of the involved fallopian tube should be considered as a first treatment modality to preserve the fertility of young women if there is no sign of irreversible necrosis. If the tissue reperfusion can be achieved during operation, there is no need for salpingoophorectomy. Laparoscopy is an option in the treatment of patients with adnexal torsion and isolated tubal torsion. The advantage of laparoscopy will be its aid in diagnosis with minimal operative trauma and hence reduced morbidity and laparoscopic intervention should be the first treatment modality.

CONSENT

All authors declare that 'written informed consent was obtained from the patient (or other approved parties) for publication of this case report and accompanying images.

ETHICAL APPROVAL

Ethical approval for this case report was obtained from the Institutional Review Board of Umraniye Education and Research Hospital.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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