



Isolated Torsion of Fallop Tube During Early Pregnancy⁺

Şeyma Hasçalık*, Önder Çelik*, Burak Işık**, Hale Kırımlıoğlu***

* Inonu University Medical Faculty, Department of Obstetric and Gynecology, Turkey, Malatya

** Inonu University Medical Faculty, Department of General Surgery, Turkey, Malatya

*** Inonu University Medical Faculty, Department of Pathology, Turkey, Malatya

Isolated torsion of the fallopian tube is an un common event It is a difficult condition to evaluate clinically and surgery is often necessary to establish the diagnosis. A 23-year old, nullipar woman was admitted with severe abdominal pain in the right lower quadrant associated with nausea and vomiting for 3 days. Abdominal examination revealed diffuse, lower abdominal tenderness with guarding and rebound mainly in the right lower quadrant and the abdomen showed muscular rigidity, suggesting peritonism. Pelvic ultrasound showed that intrauterin viable fetus and their crown-rump lengths were 13 mm corresponding to 7 weeks 5 days of gestation and right adnexal unilocular cyst approximately 46 x 30 mm in diameter with no solid areas and surrounded by a thin wall was found. In the differential diagnosis acute appendicitis is considered. During laparotomy a swollen hyperemic right tuba was found, and the appendix was hyperemic. Appendectomy and right salpingectomy were performed. Histopathology confirmed periapendicit, and right tubal necrosis.

Key Words: Tubal torsion, Pregnancy

Erken Gebelikte İzole Fallopiyan Tüp Torsiyonu

Fallop tüpünün izole torsiyonu nadir bir durum olup, tanı için çoğu zaman klinik yaklaşımdan ziyade sıklıkla cerrahi müdahale gerekir. Yirmi üç yaşında üç gündür bulantı ve kusmaları olan nullipar hasta şiddetli sağ kasık ağrısı ile başvurdu. Abdominal muayenede peritoneal tutulumu düşündüren özellikle sağ alt kadranda yaygın rebound, hassasiyet ve muskuler rijidite saptandı. Pelvik ultrasonografide CRL'si 13 mm, 7 hafta 5 gün ile uyumlu intrauterine viable fetus ve sağ adnexial alanda ünüloküle, 46 x 30 mm çapında solid alan içermeyen ince duvarlı kistik oluşum saptandı. Ayırıcı tanıda apendisitis düşünöldü. Laparotomi esnasında ödemli ve hiperemik sağ tubaya ek olarak appendix de hiperemik olarak gözlemlendi. Sağ salfenjektomi ve apendektomi yapılan hastanın histopatoloji raporu tubal nekrosis ve periapendisitis olarak geldi.

Anahtar Kelimeler: Tubal torsion, Gebelik

⁺Bu yazı 4. Ulusal Jinekoloji ve Obstetrik Kongresi, 20-25 Nisan, Antalya, 2004' te poster olarak sunulmuştur.

Torsion of the ovary can occur in normal or pathologically enlarged ovaries, that usually involves the fallopian tubes.¹ Tubal torsion requires a quick and confident diagnosis to save the adnexal structures from infarction. Torsion of the tube is, however, less frequent the overall incidence as 1 in 1,5 million women and is generally isolated and unilateral.²⁻⁴ This condition usually is associated with reduced venous return from the ovary as a result of stromal edema, hyperstimulation, or a mass. A study that retrospectively reviewed emergency surgeries at a woman's hospital found that adnexal torsion accounted for 2.7 % of all gynecological emergencies with a preoperative diagnostic accuracy of 37.8 % .¹ Patients typically present with intermittent pain related to the torsion and detorsion of the involved adnexa. There may be low fever and other nonspecific symptoms such as nausea, diarrhea, and syncope.⁵ Ultrasonography with color Doppler analysis is the method of choice for the evaluation of adnexal torsion because it can show morphologic and physiologic changes in the ovary. While ovarian torsion has no characteristic ultrasound appearance, the finding of normal adnexa on ultrasound makes the diagnosis very unlikely.⁶ At clinical examination, gastroenteritis, ectopic pregnancy, pelvic inflammatory disease, appendicitis, hemorrhagic ovarian cysts and ruptured corpus luteum are considered in the differential diagnosis. Laboratory tests are not helpful because most signs and symptoms of tubal torsion can be associated with leukocytosis. Early diagnosis and treatment is necessary if a

twisted tube or a part of it is to be preserved; especially early laparoscopy may be a considerable diagnostic tool in these cases.

CASE PRESENTATION

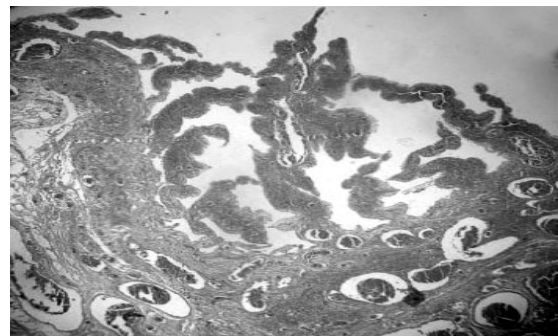
A 23-year old, nullipar woman was admitted with severe abdominal pain in the right lower quadrant associated with nausea and vomiting for 3 days. Abdominal examination revealed diffuse, lower abdominal tenderness with guarding and rebound mainly in the right lower quadrant and the abdomen showed muscular rigidity, suggesting peritonism. Bowel sounds were present. The patient was in week 7 of a spontaneous gestation, with no history of pelvic inflammatory disease, abortions, infertility or abdominal surgery. Blood pressure and heart rate were stable. Pelvic examination revealed an anteverted, enlarged, tender myomatous uterus and a tender adnexal mass was palpable on the right fossa. Cervical movement during the bimanual examination was painful; no cervical bleeding was present. Pelvic ultrasound showed that intrauterin viable fetus and their crown-rump lengths were 13 mm corresponding to 7 weeks 5 days of gestation. In addition, ultrasonography demonstrated that 72 x 67 mm and 62 x 58 mm leiomyomas located in fundus and corpus uteri. Right adnexal unilocular cyst approximately 46 x 30 mm in diameter with no solid areas and surrounded by a thin wall was found. Minimally anechoic fluid in the posterior pouch of Douglas and Morisson's space was observed. Hemoglobin was 9.3 g/dl and white cell count was 13100/mm³. Urine analysis was normal. Laparotomy was performed through a right paramedian incision. 100 ml of serohemorrhagic fluid was removed from the peritoneal cavity. A swollen hyperemic right tuba was found, and the appendix was hyperemic. Appendectomy and right salpengectomy were performed and the upper and lower abdomen were washed with normal saline. An abdominal ultrasound done postoperative day 1 revealed a viable intrauterine pregnancy. Histopathology confirmed periappendicitis and right tubal necrosis (Fig. 1). The patient was discharged on the seventh postoperative day and followed-up regularly at the obstetrics clinic.

DISCUSSION

Tubal torsion is an infrequent but significant cause of acute lower abdominal pain in women. It can occur at any age and most of the patients are under 30 years old. Approximately %20 of the cases are pregnant. The clinical findings are nonspecific and delay in diagnosis

and surgical management are common. Laparoscopy plays an important role in making an accurate diagnosis and avoiding unnecessary delays in treatment. Video-assisted minimally invasive surgery appears to be suitable for treatment of tubal torsion in children.⁷ Filtenborg⁸ suggests that, early diagnosis and treatment is necessary if a twisted tube or a part of it is to be preserved; especially early laparoscopy may be a momentous diagnostic tool in these cases.

Figure 1. Photomicrograph of torsioned necrotic Fallop tube, congestion and transmural infarct exhibiting coagulative necrosis, with preservation of the general tissue architecture (H&E, x40)



The cause of adnexal torsion is multifactorial. Torsion may occur in normal adnexa because of spasm of the adnexal structure and hemodynamic changes of the mesosalpinx.^{9,10} Developmental abnormalities of the fallopian tubes or mesosalpinx and long tube and absent mesosalpinx. Diseases of the tube or ovary may be tumor, tumoral traumatic or iatrogenic.^{3,11} Patients typically present with intermittent pain related to the torsion of the involved adnexa. There may be low-grade fever and other nonspecific symptoms such as nausea, diarrhea, and syncope. General laboratory studies are not helpful in making the diagnosis. They are helpful to ensure that there are no other diagnosis coexisting. The use of CBC to evaluate for leukocytosis is very non-specific. Pregnancy test is the most critical laboratory procedure that can be done in emergency department setting to ensure that there is no evidence of pregnancy. When evaluating a patient with acute onset of lower abdominal or pelvic pain, isolated fallopian tube torsion may not be so high on the list of differential diagnoses. Other causes to be considered include ovarian torsion and ruptured ovarian cyst, PID, ectopic pregnancy, tuba-ovarian abscess, endometriosis, mesenteric ischemia, appendicitis, diverticular disease, perforated colonic carcinoma and ureteral calculi.¹² In a recent study, Yalcin et al.¹³ demonstrated two cases of torsion of fallopian tube during pregnancy, one with

Isolated Torsion of Fallop Tube During Early Pregnancy

hydrosalpinx, the other with paratubal cyst. Ultrasonography is rapid, accurate, and provides excellent anatomic details, making it the most widely used imaging technique in the direct evaluation of female gynecologic pathologies. The ultrasound appearance of ovarian torsion is highly variable and may include a cystic, complex, and solid tender mass with an associated pathology frequently seen.¹⁴ The possibility of multiple pathologic disorders should always be considered in a patient with an acute surgical abdomen. We present an incidental case of tubal torsion. Nonetheless, tubal torsion must always be kept in mind whenever a woman presents with unilateral pelvic pain. Early diagnosis is paramount in children and women of reproductive age in order to improve the likelihood of adnexal salvage and future fertility.

REFERENCES

1. Hibbard LT: Adnexal torsion. *Am J Obstet Gynecol* 1985; 152:456
2. Hansen OH. Isolated torsion of the Fallopian tube. *Acta Obstet Gynecol Scand.* 1970;49:3-6.
3. Nichols DH, Julian PJ: Torsion of the adnexa. *Clin Obstet Gynecol* 1985; 28:375
4. Barnes WS, Schantz JC, Shochat SJ: Torsion of the fallopian tube in a premenarcheal female patient. *Am J Dis Child* 1977; 131:1297
5. Lomano JM, Trelford JD, Ullery JC: Torsion of the uterine adnexa causing an acute abdomen. *Obstet gynecol* 1970;35: 221-115.
6. Kupesic S, Aksamija A, Vucic N, Tripalo A, Kurjak A. Ultrasonography in acute pelvic pain. *Acta Med Croatica.* 2002;56:171-80
7. Huang FJ, Chang SY, Lu YJ. Laparoscopic treatment of isolated tubal torsion in a premenarchal girl. *J Am Assoc Gynecol Laparosc.* 1999 ;6:209-11.
8. Filtenborg TA, Hertz JB. Torsion of the fallopian tube. *Eur J Obstet Gynecol Reprod Biol* 1981;12:177-81.
9. Dedecker F, Graesslin O, Khider Y, Fortier D, Quereux C, Gabriel R. Isolated torsion of the Fallopian tube in a 15-year old adolescent. About one case. *Gynecol Obstet Fertil.* 2003;31:1036-8.
10. Poma PA, Barber A. Fallopian tube necrosis after postpartum sterilization. *J Natl Med Assoc.* 2001;93:149-50.
11. Youssef AF, Fayad MM, Shafeek MA. Torsion of the fallopian tube. A clinicopathological study. *Acta Obstet Gynecol Scand.* 1962;41:292-309.
12. Milki A, Jacobson DH. Isolated torsion of the fallopian tube. A case report. *J Reprod Med.* 1998;43:836-8.
13. Yalcin OT, Hassa H, Zeytinoglu S, Isiksoy S. Isolated torsion of fallopian tube during pregnancy; report of two cases. *Eur J Obstet Gynecol Reprod Biol.* 1997;74:179-82.
14. Helvic MA, Silver TM: Ovarian torsion: sonographic evaluation, *J Clin Ultrasound* 1989;17: 327-332.

Correspondence to:

Dr. Şeyma Haşçalık
Inonu University Medical Faculty
Department of Obstetric and Gynecology,
44069, Malatya, Turkey
E-mail : shascalik@inonu.edu.tr
Tel : 422 341 0660