

Isolated tubal torsion in a woman who had laparoscopic tubal ligation by bipolar electrocoagulation

Bipolar elektrokoteri ile bilateral tuba ligasyonu olan kadında izole tubal torsiyon

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ABSTRACT

A 29-year-old woman with tenderness in the left lower quadrant of the abdomen with no guarding or rebound tenderness was admitted to the hospital. Her pelvic examination revealed a tender, semi-mobile and semi-solid mass, 6 cm in diameter, just palpable adjacent to the left fornix. Her medical history was otherwise normal except that she had had laparoscopic tubal ligation by bipolar cauterization two months earlier. After 48 hours of medical treatment, laparoscopy was performed. The uterus and both ovaries appeared normal. The distal portion of the left tube remnant was twisted three times on its mesosalpinx and appeared gangrenous and necrotic. A left partial salpingectomy was done laparoscopically. The woman was discharged after 8 hours from the hospital. The pathology confirmed the diagnosis of torsion of a previously dilated tube.

Key words: Tubal torsion, Tubal ligation, Laparoscopy

ÖZET

Rebound, defansı olmayan sol alt kadran ağrısı olan 29 yaşındaki kadın hastaneye yatırıldı. Pelvik muayenesinde sol forniks komşuluğunda ağrılı, yarı mobil, yarı sert 6 cm çapında kitle palpe edildi. Medikal öyküsünde 2 ay önce bipolar koter ile laparoskopik tuba ligasyonu haricinde bir özellik yoktu. 48 saat medikal tedavi sonrası laparoskopi yapıldı. Rahim ve yumurtalıklar normal görünümdeydi. Sol tüpün distal bölümü mezosalpinks etrafında 3 kez dolanmıştı ve gangrenli, nekrotik görülüyordu. Sol parsiyel salpinjektomi yapıldı. Ameliyattan 8 saat sonra kadın taburcu edildi. Patoloji dilate tüpün torsiyonunu teyid etti.

Anahtar kelimeler: Tubal torsiyon, Tuba ligasyonu, Laparoskopisi

Introduction

Torsion of adnexa of the uterus is a relatively common condition with a prevalence of 2.7% [1]. However, isolated torsion of the fallopian tube is an even rarer condition with an incidence of 1 in 1.500.000 women [2]. This event occurs without involvement of the ovaries. Predisposing factors for torsion of the tube are anatomical abnormalities, abnormal motility, ovarian or para-ovarian masses, infection, pyosalpinx, hematosalpinx, pregnancy, sudden body position changes, trauma, venous congestion in the mesosalpinx and previous tubal surgery like tubal ligation [3]. We present a case in which isolated tubal torsion occurred 2 months after laparoscopic tubal ligation by bipolar electrocoagulation.

Case report

A 29-year-old woman, gravida 4, para 2, abortion 2 was admitted to an outpatient clinic with a complaint of suprapubic pain and vaginal discharge. The patient was initially diagnosed to have pelvic inflammatory disease (PID). Her symptoms did not regress even though she was on cefamezine and metronidazole treatment for 2 days. She was sent to our hospital for further evaluation.

On admission to our emergency room she was afebrile and had tenderness in the left lower quadrant of the abdomen with no guarding or rebound tenderness. Her medical history was uneventful except the laparoscopic tubal ligation she had had by bipolar cauterization two months earlier. Her pelvic examination revealed a tender, semi-mobile and semi-solid mass of 6 cm in diameter adjacent to the left fornix. The pelvic ultrasound demonstrated a normal uterus and ovaries with a cystic structure measuring 61x35x38 mm adjacent to the left ovary. There was free fluid in the pouch of Douglas. The initial possible diagnosis was PID and pyosalpinx. Complete blood count, blood chemistry, liver and kidney function tests, coagulation profile, urine analysis were all within normal limits. The sedimentation rate was measured as 88mm/h and the C-reactive protein (CRP) level was 68 mm/L. A blood human chorionic gonadotropin (β -hCG) assay was less than 1 IU/ml. Ofloxacin 400 mg IV every 12 hours and metronidazole 500 mg IV every 8 hours was started and she was scheduled for laparoscopy 48 hours after initiation of

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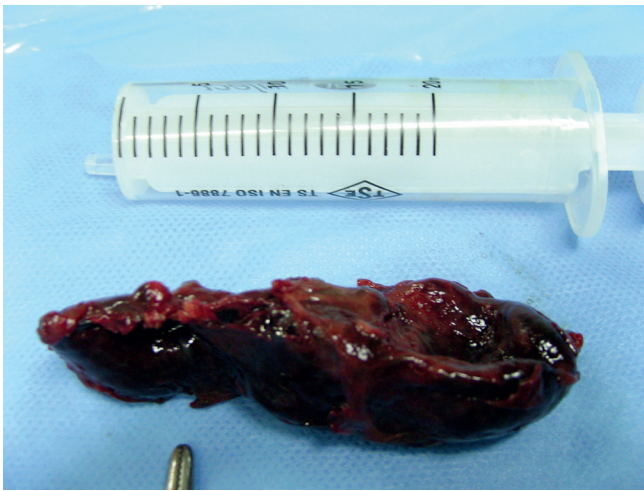


Figure 1. Excised tube



Figure 2. Gangrenous hydropic tube

treatment. The uterus and both ovaries appeared normal. The distal portion of the left tube remnant was twisted three times on its mesosalpinx and appeared gangrenous and necrotic. The right tube had a ligation scar along its middle portion. A left partial salpingectomy was done laparoscopically.

On macroscopic examination, the mass was dark and had a necrotic appearance, measuring 60x40x25 mm. (Figure 1 and 2) The pathology report showed an infarcted dilated tube and confirmed the diagnosis of torsion of a previously dilated tube.

The patient's pain regressed after surgery. She was discharged from the hospital 8 hours after operation. Her follow-up examination one month after the operation was normal.

Discussion

Tubal ligation for surgical sterilization is being used widely. A rare complication of this procedure is tubal torsion, which occurs especially after monopolar electrocoagulation where the mesosalpinx is extensively damaged. Hydrosalpinx is another predisposing factor for tubal torsion [4]. In a study which investigated the proximal tube remnants after tubal ligation by hysterosalpingography dilatation was found in both the short and the long tubal remnants in 67% of cases [5]. This finding may explain the predisposition of these dilated fallopian tube remnants for torsion. Hydrosalpinx occurring after ligation results from the accumulation of secretions from the tubal epithelium when both ends of the tube become occluded. Surgical cauterisation or ligation of one end may thus provoke hydrosalpinx formation in cases with previous distal occlusion at the other end.

The change in the blood supply to the distal portion of the tube by an interruption of the venous and the lymphatic drainage, causes congestion and edema which may facilitate the torsion. Surgical division of the mesosalpinx of the tube may weaken the structural support provided by the

mesosalpinx. Hydrosalpinx must be suspected when a cystic adnexial mass is seen in a patient with a history of tubal ligation, PID or pelvic surgery. In our case, the initial ultrasound findings were in favor of a possible PID or hydrosalpinx. Thus medical treatment was started accordingly.

Symptomatology of the tubal torsion is variable [6]. The pain during the initial phase of torsion is of sudden onset, intermittent in character with an abdominal tenderness and possible rebound tenderness. When the torsion is intermittent or reversible, the pain is cyclic, intermittent, particularly periovarian. Our patient had sudden onset of pelvic pain which persisted for 4 days when she was on antibiotics. The patient's clinical condition did not improve during her treatment in our clinic. Hence, diagnostic laparoscopy was performed. Isolated left tubal torsion was detected along the previous tubal ligation site which could explain the pain that was unresponsive to medical treatment.

Historically, there has been concern that tubal sterilization may cause subsequent gynecologic and psychologic problems which have been called the "post-tubal ligation syndrome". A high incidence of pelvic disorders occurs after tubal ligation, mostly menstrual disorders [7]. In one study with a ten year follow up of 200 women after tubal ligation the reported cumulative incidence of pelvic disorders was 24% [8]. Menometrorrhagia is the main disorder with a percentage of 54%. Other complications were PID, endometriosis, adenomyosis, and endometrial carcinoma. Almost one third of these complications occur during the first year of the tubal ligation. The initial diagnosis of our patient was PID which is the most common complication after tubal ligation. There is evidence to support the concept that tubal ligation, mostly due to the technique applied, may result in disruption of ovarian blood or nerve supply, producing gynecologic sequelae [9].

More recent large prospective epidemiologic studies that have taken prior gynecologic problems and contraceptive usage into consideration have failed to show an increased incidence of gynecologic sequelae [9,10]. Peterson et al.

studied the risk of menstrual abnormalities in a total of 9514 women and found that women who have undergone tubal sterilization are no more likely than other women to have menstrual abnormalities [11].

In summary, torsion of a fallopian tube is a rare complication seen after tubal ligation. It should be considered in the evaluation of women with acute onset of lower abdominal pain with a history of tubal ligation. Sonographic findings may help to establish the preoperative diagnosis. Laparoscopy should be the preferred diagnostic tool and the best therapeutic approach.

References

1. Hibbard L T. Adnexal torsion. *Am J Obstet Gynecol* 1985; 152: 456–61.
2. Hansen OH. Isolated torsion of the Fallopian tube. *Acta Obstet Gynecol Scand* 1970; 49:3-6. doi : 10.3109/00016347009157506
3. Phupong V, Intharasakda P. Twisted fallopian tube: a case report. *BMC Pregnancy and Childbirth* 2001; 1:5. doi:10.1186/1471-2393-1-5
4. Shapiro HI, Hughes WF, Adler DH. Torsion of the oviduct following laparoscopic sterilization. *Am J Obstet Gynecol* 1976; 15:733-4.
5. Yankaskas BC, Kerner TC, Cuttino JT, Clark RL. Post ligation dilatation of fallopian tube. *Invest Radiol* 1992; 27: 578-82.
6. Gerald CK. Torsion of uterine tube following Pomeroy sterilization. *Obstet Gynecol* 1956; 7: 396-8. doi:10.1016/S0301-2115(96)02656-5
7. Muldoon MJ. Gynecological illness after sterilization. *BMJ* 1972; 1: 84-5. doi: 10.1136/bmj.1.5792.84
8. Williams EL, James HG, Merrill RE. The subsequent course of patients sterilized by tubal ligation. *Am J Obstet Gynecol* 1951; 61: 423-7.
9. Huggins GR, Sondheimer SJ. Complications of female sterilization: immediate and delayed. *Fertil Steril* 1984; 41: 337-55.
10. Peterson HB, Jeng G, Folger SG, et al. The risk of menstrual abnormalities after tubal sterilization. *N Eng J Med* 2000; 343:1681-7. doi: 10.1056/NEJM200012073432303
11. Peterson HB, Xia Z, Hughes JM, Wilcox LS, Tylor LR, Trussell J. The risk of pregnancy after tubal sterilization: Findings from the U.S. Collaborative Review of Sterilization. *Am J Obstet Gynecol* 1996; 174:1161–8.