

P R A C E K A Z U I S T Y C Z N E
położnictwo

Tubal torsion during pregnancy – case report

Skręt jajowodu podczas ciąży – opis przypadku

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Abstract

Tubal torsion is a very rare event, especially in pregnancy. We present a case of a patient of 20 weeks gestation that was admitted to our clinic with acute abdomen. Radiological and biochemical investigations did not reveal the cause of abdominal pain which resulted in laparotomic exploration. During the operation, the paratubal cystic mass, previously explored by ultrasonographic examination, and the left fallopian tube were found twisted among themselves. Salpingectomy was performed due to the necrotic appearance of the fallopian tube.

Key words: **tubal torsion / pregnancy / laparotomy /**

Streszczenie

Skręt jajowodu jest bardzo rzadkim schorzeniem, zwłaszcza w ciąży. Przedstawiamy przypadek pacjentki w 20 tygodniu ciąży, która została przyjęta do naszej kliniki z powodu silnych bólów brzucha. Badania radiologiczne i biochemiczne nie wykazały przyczyny dolegliwości bólowych, co skłoniło nas do wykonania laparotomii zwiadowczej. Podczas operacji okazało się, że wcześniej uwidoczniona w badaniu ultrasonograficznym torbiel około jajowodowa była skręcona razem z lewym jajowodem. Z uwagi na zmiany martwicze jajowodu wykonano jego usunięcie.

Słowa kluczowe: **skręt jajowodu / ciąża / laparotomia /**

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Introduction

Acute abdomen in pregnancy may result from several genital and non-genital conditions. Adnexal torsion in pregnancy is an uncommon cause of acute abdomen and isolated tubal torsion accounts for a very small number of adnexal torsions. Isolated tubal torsion has the incidence of about 1/1.500.000 women [1].

It is usually misdiagnosed and the proper diagnosis is achieved only during surgery. Abruptio placenta, uterine rupture, acute appendicitis, ovarian torsion, degeneration of leiomyoma, cholestitis, ureteral or renal colic, bowel obstruction are the other causes of acute abdomen in pregnancy. Although torsion may be seen in a normal fallopian tube, in most cases there exists a predisposing factor. Morgagni and paratubal cysts have been proved to be common predisposing factors for acute torsion among other anatomical abnormalities such as hydrosalpinx, ovarian cysts, previous pelvic surgery and neoplasms. Physiological conditions such as intestinal peristalsis, abnormal tubal movement, enlarged hyperstimulated ovaries or hemodynamic abnormalities like venous congestion or trauma are the other

predisposing factors for isolated tubal torsion [2]. The common symptom is lower abdominal pain with abdominal tenderness, accompanying nausea and vomiting. Doppler ultrasonography may be useful for diagnosis [3].

Surgical management is always needed. Laparotomy and laparoscopy can be performed but laparoscopic surgery seems to be best option, especially during the first and second trimester of pregnancy. In advanced gestational ages, laparotomy is generally preferred because of technical difficulties of laparoscopy [4].

The choice depends on experience of the operating team. Detorsion during surgery instead of salpingectomy is controversial. In selected patients, detorsion may be tried due to the color of salpinx that may give information about the extent of necrosis, improvement in blood supply after detorsion and short time period between the beginning of complaints and surgical treatment.

19 tubal torsion case during pregnancy have been published in literature. (Table 1). The present case will be the twentieth one.

Table 1. Reported tubal torsions in pregnancy.

Author	Year	Number of case	Gestational Age	Side	Hystopathology
Savage JE, et al [8]	1936	1	38	Right	Tubal infarction and paratubal cyst
Caldwell RK, et al [9]	1949	1	21	Right	Tubal infarction
Kushner DH et al [10]	1952	1	37	Right	Tubal infarction,
Lewis EC et al [11]	1962	1	30	Right	Tubal infarction, paratubal cyst
Walker PA et al [12]	1962	1	37	Right	Tubal infarction
Chastrusse L et al [13]	1966	1	20	Right	Paratubal cyst
Chambers JT et al [14]	1979	2	30	Right	Tubal infarction, normal ovary
			36	Right	Tubal infarction
Isager-Sally L et al [15]	1985	4	15	Right	Symple ovarian cyst
			39	Right	Paratubal cyst
			32	Right	Ischemic necrosis
			29	Right	Dermoid cyst
McKenna PJ et al [16]	1989	1	32	Right	Paratubal cyst
Sorem KA et al [17]	1991	1	39	Right	Acute haemorrhage of the salpinx
Yalcin OT et al [18]	1997	2	26	Right	Hydrosalpinx
			34	Right	Paratubal cyst
Phupong V et al [19]	2001	1	28	Left	Paratubal cyst
Batukan C et al [20]	2007	1	22	Left	Hydrosalpinx, paratubal cyst
Origoni M et al [7]	2008	1	32	Right	Paratubal cyst
Present case	2010	1	20	Left	Paratubal cyst

Case report

A 30-year-old patient who had a non-regular pregnancy follow up was admitted to our clinic with lower abdominal pain radiating to the left groin and pubis at 20 weeks gestation (gravida:1, para:0). Tenderness in her left lower quadrant was the abnormal physical examination finding. Vaginal examination was performed and no abnormality was observed. Her hemoglobin level, white blood cell count and urine analyses were normal. Ultrasonographic study revealed a cystic mass with dimension of 65x35 millimeters in the left adnexal region. The adnexal mass was homogeneous and hypoechogenic, had a thin wall without any papillary structure. The patient was hospitalized and followed up for two days. During her follow up adnexal Doppler ultrasonography was performed and bilateral ovarian blood flow was normal. Her abdominal pain was reduced so the patient was discharged.

Two days later she was presented again with lower abdominal pain in the left side without nausea or vomiting. The only abnormal finding was tenderness in the left side of lower abdomen. Her hemoglobin level, white blood cell count and urine analyses were normal again. Pelvic ultrasonography was performed and 75x40 mm cystic mass was seen in the left adnexal region. Doppler ultrasonography revealed normal ovarian blood flow. She was hospitalized again. Abdominal tenderness worsened and exploratory laparotomy was performed via the vertical incision.

A paratubal cystic mass, approximately 8x5 cm and with necrotic appearance, was found at the operation. The cystic mass and the left fallopian tube were twisted three times around themselves. Both ovaries, the right fallopian tube and the uterus were normal. Left salpingectomy and left paratubal cyst extirpation were performed due to necrotic appearance of surgical material. Left ovary remained in its own anatomic place without any damage. Appendix was evaluated against concomitant appendicitis. After hemostasis, abdominal layers sutured sequentially. Histologic examination revealed 9x7x4 cm in diameter left paratubal cyst and the fallopian tube wall was edematous and congested. (Figure 1-2).

In the postoperative period intravenous infusion of Ritodrine was administered for prophylactic tocolysis for two days. Antibiotherapy was administered during surgery for prophylactic measures and during the recovery period only analgesic drugs were given. She was discharged at the 7th postoperative day with oral tocolytic therapy. She is now in the 30th gestation week and did not experience any other complications of pregnancy such as premature delivery or premature ruptures of membranes. Fetal biometric measurements and the volume of amniotic fluid are consistent with the gestational week without any obstetrical problems.

Discussion

Acute abdomen in pregnancy may occur due to several genital and non-genital conditions. Isolated tubal torsion is rarely seen in pregnancy and has an incidence of 1/1.500.000 per year in women in a review of all gynecological operations and surgical cases in Denmark in a 10-year period. About 80% of the tubal torsions exist in reproductive period and 12% of the cases develops along pregnancy [1].

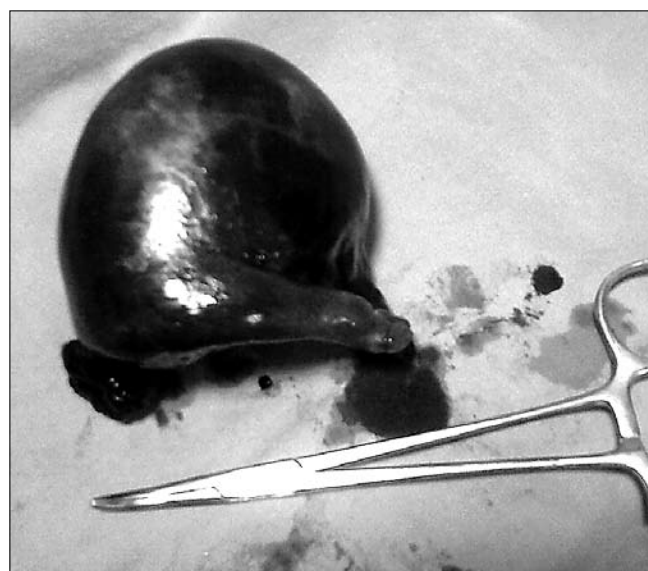


Figure 1, 2. Appearance of salpinx and paratubal cyst after salpingectomy. Fallopian tube wall was edematous and congested.

In order to diagnose tubal torsion in obstetrical and non obstetrical situations, previously differential diagnosis should be kept in mind. Abruptio placenta and uterine rupture are the most common obstetric conditions presented with acute abdomen. Appendicitis, cholecystitis, renal or ureteral colic, degenerated leiomyoma, ovarian torsion, ruptured ovarian cyst, salpingitis, tubo-ovarian abscess are the main gynecologic situations with acute abdomen. Tubal torsion is always misdiagnosed as ovarian torsion because of the symptoms. Physical examination findings and ultrasonographic appearance are similar but tubal torsion should be suspected in patients who have unaffected ovarian blood flow findings with adnexal mass in the color Doppler ultrasonography. Acute appendicitis is also confused with both adnexal and isolated tubal torsion, especially with right tubal torsion.

Although tubal torsions are generally described in abnormal tubes, they can be also seen in normal ones. Anatomical abnormalities such as hematosalpinx, hydrosalpinx, Morgagni cyst, paratubal cyst, previous tubal or pelvic surgery or tubal neoplasm have an effect on tubal torsion. Trauma, venous congestion of the fallopian tube, hypermobility or the spasm of the fallopian tube are the other predisposing factors reported. In our case, the paratubal cyst was the etiologic factor of tubal torsion [4,5].

Lower abdominal pain is the common symptom of tubal torsion. Nausea and vomiting may accompany this symptom [6]. Typical presentation is lower abdominal tenderness, with or without radiation. Abdominal guarding and rebound may develop in advanced cases. In a review published by Origoni et al [1], from 1936 to 2009; 19 isolated tubal torsion cases were retrieved in pregnancy and in all cases clinical presentation was lower abdominal pain radiating to the groin, pubis and anteromedial thigh. In this review tenderness was usually present, with only exceptional cases of abdominal guarding or rebound. Other symptoms were nausea and vomiting (%47.4), vaginal bleeding (%5.3) and dysuria (%15.8). In this review, preoperative ultrasonography was performed in 8 patients and all the patients assessed by ultrasonography had the adnexal cyst at same side of the abdominal pain. White blood cell count and sedimentation were either normal or a little elevated. In our case, lower abdominal pain was the main symptom and the patient had tenderness in the left side of lower abdomen, radiating to left groin. Abdominal guarding appeared with the progression of the disease. White blood cell count and the sedimentation were normal.

Power Doppler and pulse Doppler assessment of the ovarian arterial and venous flow have been documented as helpful methods in determination of the blood supply of the cyst and the ovaries. Absence of reverse end diastolic flow is excitant for twisting [3]. We performed both pelvic ultrasonography and Doppler ultrasonography. We established the paratubal cyst at the same side of the abdominal pain, ovarian blood flow was detected by Doppler ultrasonography and found normal bilaterally. Physicians have to be careful in cases of tubal torsion when ovarian blood flow is demonstrated by Doppler ultrasonography.

In conclusion, acute abdomen in pregnancy is rarely dependant on isolated fallopian tube torsion. It is usually misdiagnosed as ovarian torsion and confused with other causes of acute abdomen. If bilateral ovarian blood flows appear normal in the presence of paratubal cyst, Doppler ultrasonography may be predictive at the diagnose of tubal torsion and allow the clinician to suspect it.

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The authors declare no conflict of interest