

# Isolated tubal torsion in pregnancy - a rare case

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## Summary

Isolated fallopian tube torsion is an uncommon cause of acute abdomen in pregnancy. Patients present with lower quadrant abdominal pain, and some have nausea and vomiting. There is no pathognomonic diagnostic sign, so most patients are operated when it is too late to save the tube by detorsion alone. Here we present a case of isolated tubal torsion in a term pregnancy managed by salpingectomy and cesarean section simultaneously. As far as we know this will be the 20th case of reported isolated tubal torsion in pregnancy.

**Key words:** Tubal torsion; Pregnancy.

## Introduction

Isolated torsion of the fallopian tube is a very rare event with an incidence of one in 1,500,000 women [1]. It was first described in 1890 by Bland-Sutton [2]. Since then only a few cases of isolated tubal torsion in pregnancy have been reported. Both in pregnant and non-pregnant women the preoperative diagnosis is difficult, because clinical findings on physical examination, imaging techniques and laboratory tests are all nonspecific.

Most cases of isolated tubal torsion are diagnosed after the establishment of ischemic necrosis, when it is impossible to save the tube by untwisting [3]. Here we present a case of isolated tubal torsion in a term pregnancy managed by salpingectomy and cesarean section.

## Case Report

A 31-year-old, gravida 1, pregnant woman presented at the emergency department in the 34th week of pregnancy with sudden onset colic and right lower quadrant and lumbar pain. There was right lower quadrant and lumbar tenderness, but guarding and rebound were not detectable. Urinalysis and serum chemistries including CRP were normal. Hematocrit was 31.9 % and leucocyte count was 17000 mm<sup>3</sup>. Abdominal ultrasonography (US) was also normal. The diagnosis was renal colic; symptoms resolved completely in 12 hours with spasmolytics and the patient was discharged.

She was followed-up in the outpatient obstetrics polyclinic for nearly a month. At the 39th week of pregnancy she presented again with right lower quadrant pain, nausea and vomiting lasting for nearly 12 hours. On physical examination there was right lower quadrant tenderness, rebound and guarding. She was afebrile with a blood pressure of 95 over 55 and a pulse of 84. Hematocrit was 35.7% and leucocyte count was 15600 mm<sup>3</sup>. Her abdominal (bowel) sounds were normal and she had regular gas passage. During follow-up her pain increased and two hours after admission we decided on laparotomy with the indication of acute appendicitis.

At laparotomy the right tube was dilated, necrotic and two

times torted clockwise at the level of the isthmus (Figure 1). Both of the ovaries and the left tube were normal. There was no associated tubal pathology as hydrosalpinx, paraovarian or ovarian cyst. After the delivery of a 3550 g healthy girl with apgar scores of 9 and 10 at the first and fifth minutes, salpingectomy was performed. The retrocecal appendix was normal. The pathology report was fallopian tube torsion with findings of hemorrhagic infarct.

## Discussion

Isolated fallopian tube torsion is a very rare cause of acute abdomen in pregnancy. The differential diagnosis includes acute appendicitis, ovarian torsion, degenerated leiomyoma, cholecystitis, ureteral and renal colic, pelvic inflammatory disease, inflammatory bowel disease, diverticulitis, bowel obstruction, preterm labor and placenta abruptia. All isolated fallopian tube torsions in pregnancy are diagnosed during laparotomy due to indications of acute abdomen, acute appendicitis or adnexal torsion [3]. In our case acute appendicitis was the preoperative diagnosis. In 90% of patients torsion was on the right side. This could be due to the fact that mobility of the left tube is limited by the sigmoid colon or that more cases of right-sided pain are surgically explored for acute appendicitis [3, 4]. In our case tubal torsion was also on the right side. Sudden onset, constant and dull or crampy and sharp lower quadrant pain radiating to the groin, pubis or thigh is the common symptom. Physical examination reveals tenderness on the same side of the pain, but signs of peritoneal irritation with guarding and rebound are not always detectable. Laboratory signs of torsion as leucocytosis and increased CRP were not detected. Our patient presented first at the 34th week of pregnancy with right lower quadrant pain and tenderness, which resolved spontaneously in 12 hours. Possibly this was an episode of torsion and spontaneous detorsion. At term she presented again with right lower quadrant pain, but this time she had tenderness, rebound and guarding which did not resolve. In a full-term pregnant patient at the 39th week of pregnancy with rebound and guarding as in our case, the decision to do laparotomy is not difficult, but before

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Figure 1. — Isolated tubal torsion at the level of the isthmus.

full term decision making is difficult, especially when the patient has no rebound, guarding or leucocytosis. In our case leucocyte count was 15600 mm<sup>3</sup>, which cannot be considered as a diagnostic leucocytosis in a term pregnant patient.

Imaging findings in torsion of the fallopian tube are non-specific. US can detect an elongated cystic mass with echogenic, thickened walls and a tapering end. The ipsilateral ovary appears normal. Doppler can reveal absence of flow in the suspected mass or high impedance vascular flow [5-7]. Vascular supply of the fallopian tubes and ovaries come from both the uterine and ovarian arteries, therefore isolated tubal torsion is possible without affecting the ovary on the same side. In a term pregnant patient like our case the gravid uterus can hinder small adnexal masses at US and Doppler may not be feasible. Computed tomography (CT) findings in isolated tubal torsion are an adnexal mass, a twisted appearance of the fallopian tube, a dilated tube more than 15 mm and a thickened and echogenic tubal wall [8]. CT has also been used successfully in the differential diagnosis of acute appendicitis and acute abdomen in pregnancy [9]. Our patient had obvious acute abdomen and she was in the 39th week of pregnancy, therefore a CT was not considered. US should be the preferred initial imaging modality as it lacks ionizing radiation, but in our case it did not contribute to the diagnosis because there was no accompanying adnexal mass.

Etiologies for fallopian tube torsion include anatomical abnormalities (long mesosalpinx, tubal abnormalities, hematosalpinx, hydrosalpinx, Morgagni cysts) – physiologic abnormalities (abnormal peristalsis or hypermobility of tube, tubal spasm and intestinal peristalsis) – hemodynamic abnormalities (venous congestion in mesosalpinx) – Sellheim theory (sudden body position changes) – trauma, previous surgery or disease (tubal ligation, pelvic inflammatory disease) – gravid uterus [4]. In our case there was no anatomical abnormality. At the 34th week of pregnancy the patient had a right lower quadrant pain which resolved with spasmolytics. This

indicates that at the beginning of the process some cases of tubal torsion may resolve spontaneously. Later with the establishment of signs of peritoneal irritation laparotomy is inevitable. Chronic tubal torsion with an intermittent left lower quadrant pain lasting for 18 months has been reported [10], so probably most of the cases, especially if they involve the left lower quadrant, can be missed.

Treatment options include surgical detorsion, salpingotomy and salpingectomy depending on the time of the diagnosis. All the cases detected in pregnancy had salpingectomy [3] and our case was not an exclusion. In the first and second trimesters of pregnancy the laparoscopic approach is more useful but in advanced gestations as our case, laparotomy is generally preferred because of the technical difficulties of the laparoscopic approach to the adnexa and the cesarean option in term patients during laparotomy. In the review of Origoni *et al.* cesarean section during laparotomy was performed in six of the 19 patients and as early as 28 weeks of pregnancy [3].

In conclusion pregnancy is a risk factor for isolated tubal torsion and the diagnosis can be easily missed in the absence of an accompanying adnexal mass and in left-sided torsion.

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