

Disappeared Ovary After Detorsion in a 26-Year-Old Pregnant Woman: A Case Report

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ABSTRACT

We present a 26-year-old woman with hypothyroidism that was treated with levothyroxine, and was hospitalized at 25 weeks of gestational age with diagnosis of ovarian torsion and underwent detorsion surgery, but finally, after a few weeks and during cesarean section, no trace and evidence of the ovary was observed, which suggests the phenomenon of spontaneous ovarian absorption.

Keywords: Ovarian torsion, Ovarian absorption, Hypothyroidism, Pregnant, Acute abdomen

Introduction

Ovarian torsion is a rare problem in women, but it is a gynecological emergency (1). Ovarian torsion mostly occurs in reproductive age, but it's possible in all ages, even in neonates (2). Ovarian cysts, tubal sterilization, and pregnancy are the most common clinical risk factors for ovarian torsion (3). Prompt diagnosis is necessary to save the ovary, but diagnosis of ovarian torsion is challenging owing to its variable clinical presentation and non-specific physical findings (4).

Diagnosis of ovarian torsion in non-pregnant woman is clinical and relies on symptoms and signs such as abdominal pain, nausea, vomiting, tender and enlarged adnexa, and leukocytosis. These findings are common in pregnancy and may cause delay and misdiagnosis. Ovarian torsion is more common in first trimester, and its incidence declines in second and third trimesters. An explanation of this phenomenon may be high prevalence of ovarian cysts in first trimester which have gradual regression by advancing gestational age

(5). Prevalence of ovarian torsion in pregnancy is increasing because of growing number of ovarian stimulation treatments. High clinical suspicion is essential for immediate laparoscopic management (6).

In this paper, we are going to discuss a rare and fantastic case of ovarian torsion in pregnancy in which the ovary and its adjacent tube were vanished after detorsion of the ovary. There is no known reason for this phenomenon, but necrosis and spontaneous absorption of tissue may be the cause of this rare event.

Case Report

A 26-year-old woman, gravida 1 para 0, at 25 weeks of gestational age with a fetal breech position was hospitalized due to the left lower quadrant abdominal pain that started 4 days before.

She complained of Anorexia, nausea, vomiting, and had a history of PCO and Hypothyroidism, and

Levothyroxine therapy. She had no history of autoimmune diseases or specific syndromes. There was no history of taking other medications or herbal products.

At first, she had a temperature of 37 degrees Celsius, 107 HR, 18 RR, 112/75 BP, and 14300 WBC counts.

The patient underwent color Doppler ultrasounds that reported the left ovary with dimensions of 104 x 57 mm and a cyst with dimensions of 54 x 31 mm and also, blood flow was not detected ([Figure 1](#)).

She underwent laparotomy with the possible diagnosis of ovarian torsion.



Figure 1. Color Doppler ultrasounds before laparotomy

The diagnosis of ovarian torsion was confirmed, then her left tube and ovary were detorted ([Figure 2](#)).

After surgery, color Doppler ultrasounds reported the left ovary with dimensions of 84 x 40 mm and a hemorrhagic cyst with dimensions of 32 x 46 mm, and also blood flow was not detected ([Figure 3](#)).

The patient did not have fever and tachycardia after the operation and had no abdominal tenderness, and WBC counts were also declining ([7](#)).

Finally, the ovary was not observed during cesarean section, and there was a possibility of necrosis and spontaneous absorption ([Table 1](#)).



Figure 2. Detorsion of ovary



Figure 3. Color Doppler ultrasounds after laparotomy

Table 1. Laboratory findings of the patient from two days before to two weeks after surgery

Laboratory test/Units	2 days before	Before OR	After OR	1 day after	2 days after	1 week after	2 weeks after	Reference value
WBC (cell/ μ L)	12700	14300	10500	9600	8700	11800	12600	4000-11000
Lymphocyte(PERCENTAGE)	-	13.9	7.3	15	19.4	22	23	11-49
Neutrophil (PERCENTAGE)	-	80	89.8	79	74.4	72	72	45-80
HB(g/dr)	12.3	11.9	11.8	10.9	11.1	13	13.5	12-16
PLT (cell/ μ L)	182000	267000	184000	228000	229000	269000	271000	150000-450000
Cr (mg/dr)	1	0.6	0.8	0.8	-	-	-	0.6-1.2
Urea (mg/dr)	12	13	12	12	-	-	-	10-50

Discussion

We have described a case of mid-trimester left adnexal torsion followed by spontaneous disappearance of ovary after detorsion.

Adnexal torsion is rare during second trimester and exceptional during the third trimester (8). Classic important risk factors for ovarian torsion like gross tumors, ovarian hyperstimulation for the treatment of infertility, and pregnancy are well known (9).

Primitive diagnosis and treatment is very momentous to salvage the adnexa in women desiring to keep their pregnancy and retain ovarian future function (10). The prevalence of torsion in the right ovary is 50% higher than in the left ovary (11).

Ovarian torsion is an emergency status refers to rotation of the adnexal supporting organ with ischemia (12). Recurrent pain in abdomen, presence of adnexal mass, and sometimes a low-grade fever in a woman leads us to this diagnosis. In these cases, the first diagnostic line is ultrasound. The presence of a swollen ovary with reduced blood flow or the absence of blood flow and a twisted ovary will most likely confirm the diagnosis, but ultimately seeing the ovary during surgery will confirm it (13, 14). Chang et al observed that the usual symptoms and signs of OT in pregnancy contains unexpected onset of lower abdominal pain with nausea/vomit, an adnexal mass, and rise in white blood cell(WBC) count (10). As in our case the patient was admitted due to lower abdominal pain, nausea and vomiting and increased WBC count.

Further on in ultrasonography findings, we found an enlarged left ovary with dimension of 57x104 mm and a cyst with dimensions of 54x31 mm and also blood flow was not detected by color Doppler ultrasonography.

The best treatment is quick surgery and removal of the ovarian torsion to maintain its function (15). Depending on individuals, the decision to choose one of the surgical methods like Ovarian cystectomy,

oophorectomy, or conservative treatment with detorsion is selected (16).

Failure to early diagnosis of ovarian torsion can cause necrosis and infertility in ovary. What we expected was necrosis leading to infection or peritonitis, but what we observed, was the disappearance of detorsioned ovary, which was revealed during cesarean section. It indicated the occurrence of a phenomenon such as spontaneous absorption of the ovary without severe inflammatory process and obvious symptoms such as leukocytosis or fever.

Mishra et al (17) reported a case, was referred with nausea and Initially, she was given supportive treatment with a possible diagnosis of food poisoning but her ultrasound report, showed a cyst measuring 6 cm by 4 cm with inner wall, no visible blood vessel, and due to the rejection of other causes of vomiting, the woman underwent surgery but no healthy and normal ovarian tissue was seen. Although the left fallopian tube was slightly twisted with the ovary, just like our patient no sign of necrosis or inflammatory symptom was seen.

Guennoun et al (7) reported a 22-year-old patient with acute pelvic pain and amenorrhea for two months before the onset of the pain. Eventually the exploratory laparotomy showed twisted ischemia in one of her ovaries. Also, in the ultrasound performed three weeks later, a normal pregnancy was shown. Although torsion is not common in pregnant women, it should still be considered. Our patient was also a pregnant woman for whom this diagnosis was intended.

Nandi-Munshi et al (18) reported a teenage girl with severe abdominal ache due to ovarian twisting. Evaluations confirmed high level primary hypothyroidism. Ultrasound showed a bilateral enlargement of the ovaries and a no blood flow in right side. An emergency operation was performed due to suspicion of torsion. Her right ovary and fallopian tube were infarcted thus removed. Histology showed benign

ovarian follicular cysts. Interestingly, on sonography that performed 10 weeks after the prescription of levothyroxine, her left ovary returned to normal. This case can suggest levothyroxine treatment in patients with hypothyroidism as a suitable treatment for restoring ovarian blood flow like our patient.

Kilicdag et al (19) reported a patient with a mobile pelvic mass and lack of ovaries and fallopian tubes in one side. Two causes were considered: first, asymptomatic torsion occurred at any time before or after birth, Second: the lack may be congenital, because of defect in the formation of mullerian tube. Lack of accompanying defects and the presence of a movable mass suggested the first possible cause for the absence.

Olufowobi et al (20) reported a case of an automatic evanescence of normal adnexa with a polycystic appearing of one ovary in a young woman with 3 years background of sub-fertility. The acquired absence may be from torsion or an outcome of surgery. The patient had no surgical history or background of congenital malformation on previous sonography records. This case demonstrated that the absence of the adnex may be spontaneously and acquired later in lifetime.

Cucinella et al (21) reported a case of 18 years old female with interstitial pregnancy with ipsilateral adnexal absence. The origin of adnexal absence remained obscure, due to its rare observation. Three possible etiologies were identified: 1) adnexal twisting, 2) tubular and ovarian maldevelopment secondary to ischemia, and 3) a fault in the creation and expansion of the Müllerian and mesonephric system. Torsion of ovarian pedicle can fall out asymptotically, before birth or at any time in life. Infarction is subsequently accompanied by tissue necrosis and resorption. Sometimes, ovoid structures can be observed adherent on the peritoneal surface or as free-floating masses

Absence of ovaries especially after detorsion has rarely been observed. We believe the most possible etiology in our patient could be infarction due to

adnexal torsion. Also, our case has two similar features that can be a good clue to find the exact pathophysiology of ovarian auto-absorption and even to develop non-surgical treatments for ovarian torsion and necrosis of internal organs: pregnancy and the presence of levothyroxine-treated hypothyroidism.

In our opinion, the use of levothyroxine may have an effect on the prevention of necrosis formation and spontaneous absorption of ovarian mass; also, hormonal and immune changes in pregnancy may be effective in the occurrence of this condition.

Conclusion

In patients undergoing ovarian torsion surgery, delayed absorption of the ovary may occur for unknown reasons without symptoms of peritonitis or necrosis. More detailed research is recommended to investigate the association of this event with pregnancy or the effect of drugs such as levothyroxine in order to discover non-surgical therapies in the treatment of ovarian torsion.

Acknowledgments

None.

Conflict of Interest

The authors declared that they have no conflict of interest.

Ethics approval

The patient gave her informed written consent and provided her medical records to the research team with the consent and under the supervision of the rules of the University Ethics Committee for the publication of the case report.

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