

Case Report

## Ovarian Torsion in a 16 Weeks Pregnant Female - Case Report

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### ABSTRACT

Torsion of ovary during pregnancy is rather rare occurrence. And the majority of such cases encountered have shown the presence of torsion on the right side probably due to the presence of sigmoid colon on the left side. Here we present a case of torsion of the ovary seen during the 2<sup>nd</sup> trimester. The patient came to us with severe pain in abdomen during her antenatal period. A case of acute abdomen was diagnosed and urgent ultrasound was done which was suggestive of torsion of the left enlarged ovary. Patient was taken up for urgent laparotomy and left salpingo-oophorectomy was done. Pregnancy was preserved and continued till term when she delivered a healthy child. Here we would like to highlight the need for greater suspicion in case of clinical symptoms such as abdominal pain nausea vomiting which may be dismissed as nonspecific manifestation of pregnancy and the need for incorporating ultrasonography for the correct diagnosis and management.

**Key words:** ovarian torsion, pregnancy, laparotomy, ultrasound.

### CASE REPORT

A 33-year old, gravida 3, para 2 live2 patient at 16 weeks gestational age with previous 2 caesarean section was admitted to the emergency service with severe acute abdominal pain in the left lower-abdominal quadrant. The pain has been persistent for 4-5 hours. The patient described her pain as non-radiating and sharp. There was no history of vaginal bleeding or discharge, nausea, vomiting, fever, diarrhea, constipation, fever, or urinary complaints. Her general and gynecologic history was normal. She has history of two previous caesarean sections done in view of obstetrical indication. The last caesarean was done 4 years back. She had regular antenatal checkups. No significant past medical and other surgical history were noted. On physical

examination, the abdominal was found to be tender to palpation with rebound tenderness. Her vital signs were stable, with a blood pressure of 100/60 mm Hg and a pulse of 88 beats/min. Abdominal examination revealed a palpable lower abdominal midline mass corresponding to the gravid uterus with fullness in the left lower quadrant which was ill-defined. The abdomen had rebound tenderness with peritoneal signs. Pelvic examination did not reveal any bleeding or discharge with a closed cervix. Laboratory results were normal. A case of acute abdomen with 16 weeks pregnancy was suspected. Transabdominal sonography was performed which demonstrated a normal single live fetus in utero with fetal biometry compatible with 16 weeks gestational age. Left adnexa revealed left ovary which was enlarged and measures 9x6 cm with two

simple cysts of 4x4 cm and 5x3 cm. Small hemorrhage seen in ovarian parenchyma. Right ovary was also enlarged with a 5 cm x 2 cm simple (figure 1). No free fluid was observed in the cul-de-sac. Other intra-abdominal solid organs were normal. Color Doppler showed that the lateral half of the ovarian parenchyma reveals minimal vascularity as compared to the near normal vascularity of the medial half, suggesting ovarian torsion. The right ovary appeared to be normal with adequate vascular blood flow. After no relief with IV narcotics, the patient was taken to the operating room for urgent laparotomy. Operative findings demonstrated an enlarged left ovary two separate cyst with widespread hemorrhage.

The ovary had a dark bluish-ischemic appearance and was found to be extremely friable. The ovary and tuba appeared to have twisted around its pedicle one and half times (figure 2). Since she already had two living issue with previous two caesarean sections left salpingo-oophorectomy was done. Right ovary had a 5x2 cm simple cyst with normal color and vigor. No intervention was done on the right side. Abdomen was closed after checking for hemostasis. Postoperative period was uneventful. The patient was discharged on the 7<sup>th</sup> post-operative day. The patient was followed up antenatally had no further complications during her pregnancy. She delivered a healthy infant at 38 weeks 5 days of gestation.



Figure 1: the left ovary with two ovarian cyst with 16 weeks pregnant uterus



Figure 2 intraoperative view of the left ovarian torsion with hemorrhagic and necrotic areas with gravid uterus

## DISCUSSION

Torsion is the total or partial rotation of the ovary around its vascular axis. In the early stages, continued arterial flow with blockade of the venous and lymphatic channels sometimes results in enlargement of the ovary and this can occasionally be massive. If the torsion remains undiagnosed or untreated, arterial stasis can lead to hemorrhagic infarction and necrosis of the ovary. Adnexal torsion almost always involves both the ovary and fallopian tube and isolated ovarian torsion is rare. The mobility of the left ovary tends to be limited by the sigmoid colon; hence about two thirds of adnexal torsions are right sided. [1, 2]

With routine use of ultrasound in early pregnancy, asymptomatic, incidental adnexal tumors have been detected in 1:80 cases. [3] The most frequent types of adnexal masses are corpus luteum cysts, endometriomas, benign cystadenomas and mature cystic teratomas. [4] Most ovarian masses are asymptomatic in pregnant women. Any ovarian pathologies which increase the size of the ovary and length of the pedicle, and also pregnancy that enlarges and rotates the uterus, lead to changes in the position of the ovary. These physiologic and pathological conditions are important factors of ovarian torsion. [5]

Diagnosis of the adnexal torsion during the first trimester can sometimes be

difficult due to the nonspecific clinical features and uncommon objective findings. The most common clinical presentation is acute onset of severe colic pain in the unilateral lower quadrant. Other findings and symptoms are vomiting (76%) and palpate abdominal mass (82%). [6]

Our case presented to us with severe pain in the abdomen without emesis with 16 weeks of pregnancy with fullness in the left hypochondriac region with abdominal tenderness.

Ultrasound is the most important investigation for patients with suspected ovarian torsion. However, in the second and third trimesters of pregnancy, it is sometimes difficult to visualize the ovaries as they are displaced from the pelvis by the enlarging uterus. Some of the pelvic sonographic features found in cases of ovarian torsion are:

- Heterogeneously enlarged ovary
- Presence of peripheral follicles
- Midline ovary
- Free fluid in pouch of Douglas
- Twisted pedicle leading to 'whirlpool sign' (uncommon)
- Asymmetric thickening of ovarian wall cysts

Color Doppler in ultrasound is commonly used, but may not be diagnostic of torsion, depending on the degree of torsion and the sometimes sub acute nature of the pathology. The presence of blood flow shows that the ovary may be still viable, but does not rule out ovarian torsion. During the early stages of torsion only the venous and lymphatic flow is affected. Arterial flow may only be reduced at this stage. During the later stages arterial flow is reduced further and stasis may occur leading to hemorrhage and necrosis. Grey scale assessment of the ovary combined with Doppler imaging may enhance the diagnostic accuracy. Color Doppler imaging often shows an enlarged ovary with absent parenchymal perfusion. [2] CT and MRI modalities have limited use in the diagnosis of torsion. They may demonstrate an adnexal mass or enlarged ovary, but provide no information on the blood flow to the involved ovary.

If torsion is suspected, laparoscopy or laparotomy is warranted. [7] The main principle of treatment is timely and swift surgical evaluation and intervention. After stabilizing the patient and ruling out other abdominopelvic cause of acute abdomen a surgical treatment of adnexal mass may be necessary. The risk factors for any surgery during pregnancy include gestational age, coexistence of any chronic disease and poor condition of the fetus. With advances in anesthetic technique the risk of fetal loss is reduced. But even then the risk of premature labor in our case of 2<sup>nd</sup> trimester pregnancy is always there.

Oophorectomy is not required in all cases, particularly when laparoscopic assessment is performed early. This approach has the potential to uncoil the tortured ovary and anchor it with a possible oophoropexy. Some authors have suggested oophoropexy on the contralateral side might be considered in young patients needing oophorectomy for an ovarian torsion. Intraoperative assessment of the ovary in question is crucial in determining its potential viability. The determination of whether an acutely tortured ovary is viable can be difficult. The standard surgical treatment is laparotomy with derotation or salpingo-oophorectomy.

In our case since the patient had two living issue with previous two caesarean section with intraoperative findings suggestive of friable and necrosed ovary left salpingo-oophorectomy was done. Right ovary was preserved and no intervention taken on that side.

## CONCLUSION

Ovarian torsion is primarily a clinical diagnosis. The classical presentation is with acute pelvic pain associated with an adnexal mass. The combination of Doppler

flow imaging and morphologic ultrasound assessment of the tortured mass may improve the diagnostic accuracy. However, presence of blood flow to an ovary does not rule out torsion. Surgical intervention should be undertaken in case of torsion of the adnexal mass regardless of the gestational age. The type of intervention can vary from de-torsion to oophoropexy to salpingo-oophorectomy depending on the stage of torsion, the viability of ovary and the obstetric score of the patient.

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