

CASE REPORT

Ovarian torsion in early puerperium: a case report

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ABSTRACT

Ovarian torsion is the fifth most common gynaecological emergency requiring surgical management. Its occurrence is unusual in postpartum period. The usual presentation of the entity with acute abdomen may be altered in the postpartum period. Early diagnosis and surgical management help in preventing permanent damage to the ovary and other possible complications like thrombophlebitis and peritonitis. We present a case of 29 year old lady who presented with pain abdomen on day 8 of vaginal delivery. However, her symptomatology was not consistent with acute abdomen generally associated with ovarian torsion. Ovarian torsion was suspected on ultrasonography and was confirmed surgically after which salpingo-oophorectomy of the twisted adnexa was done.

Keywords: Postpartum torsion, ovarian torsion, puerperial torsion.

Ovarian torsion refers to complete or partial rotation of the ovary and a portion of the fallopian tube over the vascular pedicle consisting of the ovarian ligament and the infundibulopelvic ligament. The incidence is reported to be 2.5 – 7.4% in patients undergoing emergency surgery for acute pelvic pain¹. Preexisting ovarian mass is the most common predisposing cause. Ovarian torsion in postpartum period is unusual and difficult to diagnose in view of nonspecific objective findings and the fact that symptomatology of ovarian torsion and other postpartum disorders are quite similar. Ovarian torsion may progress to necrosis of the ovary and in cases with delayed surgical intervention may result in thrombophlebitis and peritonitis which can be potentially catastrophic^{1,2}. Thus, a high index of suspicion and timely surgical intervention become necessary.

Case

A 28 year old lady, P2L2, presented to us at day 8 of her delivery at a peripheral hospital with complaint of pain abdomen, localized towards right side. An ultrasound of the patient in early pregnancy was suggestive of right ovarian cyst of around 6×4 cm². Patient had a spontaneous

conception and apparently uncomplicated pregnancy and spontaneous labor onset at term followed by a vaginal delivery. On day 4 of vaginal delivery, patient had an episode of sudden pain abdomen which settled down on symptomatic treatment. On repeated episode of pain abdomen on day 8 postpartum, patient was referred to our centre.

On examination, patient was conscious and cooperative. Her vitals were stable with a pulse rate of 68/min, blood pressure of 100/62 and respiratory rate of 20/min. On per abdomen examination, abdomen was soft, uterus was around 16 weeks size and there was slight tenderness in the right lower quadrants on deep palpation. The per vaginal examination revealed 16 weeks anteverted uterus with right forniceal fullness and tenderness.

On ultrasonography, 11.6×7.6 cm² thin walled anechoic cyst was seen in the right adnexa, not separately defined from the right ovary. No color flow was observed on doppler studies suggestive of ovarian torsion. An urgent laparotomy was done. Intraoperatively, there were five loops of right ovarian torsion (figure 1). On detorsing, the ovary did not seem viable, so right salpingo-oophorectomy was proceeded

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with. Patient was discharged uneventfully on third postoperative day.



Figure 1: Right sided ovarian torsion with 5 loops.

Discussion

Ovarian torsion in the postpartum period is a rare event and a very few cases have been reported. The diagnosis can be particularly difficult in the early postpartum period as the presenting symptoms and signs can be non specific and can easily be confounded by the puerperial symptoms. Ovarian torsion is usually diagnosed clinically where the patient generally presents with acute abdomen with pain localized to one side of the abdomen in the pelvic region along with associated extreme tenderness with guarding. It is generally associated with a palpable lateral pelvic mass and nausea/vomiting. Such a presentation has a plethora of differential diagnosis comprising many gynaecological and non gynaecological surgical emergencies like appendicitis, renal colic, ruptured ovarian cyst, diverticulitis etc. Our patient had first episode of pain on day 4 postpartum which had resolved on symptomatic treatment followed by repeated episode on day 8 postpartum. Since the presentation was atypical, the clinical suspicion for torsion was not high. Unilateral pain and tenderness in early postpartum period also suggested puerperial sepsis as a probable diagnosis, but afebrile status of the patient and normal blood counts indicated otherwise.

Ultrasonography is often the first diagnostic modality used for gynaecological emergencies and it is a useful tool for the diagnosis of ovarian torsion. A twisted ovary generally appears enlarged and congested and it is generally possible to determine the nature of preexisting ovarian mass causing the torsion by means of ultrasonography by assessing its components, location, locularity and size. Decreased or absent vascularity can be observed on doppler

studies of a twisted ovary³. However, the sensitivity and specificity of doppler studies in case of ovarian torsion have not been well defined^{4,5}. The “whirlpool sign”, wherein, a twisted vascular pedicle with circular vessels on doppler is seen, is considered to have good sensitivity for ovarian torsion^{6,7}. However, normal doppler studies do not rule out ovarian torsion and doppler studies should be used in correlation with clinical findings and normal doppler findings should not outweigh clinical suspicions⁸. “String of pearls” sign and free fluid in the pelvis are other ultrasonographic findings associated with ovarian torsion.

Magnetic resonance imaging (MRI) may helpful in diagnosis when ultrasound findings are equivocal⁹ and can also help in assessing the viability of the twisted ovary since it can help in detecting necrosis. Though components of the ovarian mass can also be demonstrated in better details in MRI, it is a relatively expensive modality. Computed Tomography may be helpful in excluding other causes of acute abdomen such as appendicitis, diverticulitis etc, but is not considered as investigation of choice for ovarian torsion. It also involves inherent risk of radiation exposure. Direct visualization is needed for a definitive diagnosis of ovary torsion, either by a laparotomy or by laparoscopic means. The diagnosis in our patient was made by ultrasonography and was confirmed intraoperatively. However, at the time of presentation to the hospital, ovarian torsion was not considered due to atypical clinical findings.

High index of suspicion and prompt surgical intervention are keys to salvage ovarian function. After the development of symptoms, ovarian conservation decreases with time¹⁰. In our patient, with both the left ovary and tube had twisted five times. The entire adnexa was congested and did not seem viable after detorsing, and thus right salpingo-oophorectomy was proceeded with. However, with early intervention, ovarian function can be preserved.

The incidence of ovarian masses during pregnancy varies from approximately 1 in 100 to 1 in 2000 pregnancies¹¹. Adnexal torsion occurs in 3% of pregnant female patients with ovarian cysts¹². Since our patient had an ovarian cyst reported in the antenatal ultrasonography, she might possibly have undergone torsion during her antenatal period, which might have been missed due to atypical symptomatology and may have been dismissed as normal symptoms of pregnancy and labor. During puerperium, involution of the uterus takes place, in the process displacing the adnexa. This increases the likelihood of torsion. So alternatively, ovarian torsion in our patient may have been a result of an already existent

ovarian mass coupled with changes of postpartum changes of morphology.

Conclusion

Postpartum ovarian torsion is a rare but serious complication and may result in view of anatomical changes of puerperium. The differential diagnoses of acute abdomen after delivery range widely. Ultrasonography is the most common modality used for the diagnostic purposes and can be aided by MRI and CT scan for differential diagnosis. Early diagnosis and surgical intervention can prevent permanent ovarian damage.

Conflict of interest: None. **Disclaimer:** Nil.

References

1. Hibbard LT. Adnexal torsion. *Am J Obstet Gynecol.* 1985; 152: 456-61.
2. Bayer AI, Wiskind AK. Adnexal torsion: can the adnexa be saved. *Am J Obstet Gynecol.* 1994; 171: 1506-11.
3. Albayram F, Hamper UM. Ovarian and adnexal torsion: Spectrum of sonographic findings with pathologic correlation. *J Ultrasound Med.* 2001; 20: 1083-9.
4. Nizar K, Deutsch M, Filmer S, Weizman B, Beloosesky R, Weiner Z. Doppler studies of the ovarian venous blood flow in the diagnosis of adnexal torsion. *J Clin Ultrasound.* 2009; 37: 436-9
5. Bar-On S, Mashiach R, Stockheim D, Soriano D, Goldenberg M, Schiff E, et al. Emergency laparoscopy for suspected ovarian torsion: Are we too hasty to operate? *Fertil Steril.* 2010; 93: 2012-5.
6. Valsky DV, Esh-Broder E, Cohen SM, Lipschuetz M, Yagel S. Added value of the gray-scale whirlpool sign in the diagnosis of adnexal torsion. *Ultrasound Obstet Gynecol.* 2010; 36: 630-4.
7. Vijayaraghavan SB, Senthil S. Isolated torsion of the fallopian tube: The sonographic whirlpool sign. *J Ultrasound Med.* 2009; 28: 657-62.
8. Pena JE, Ufberg D, Cooney N, Denis AL. Usefulness of Doppler sonography in the diagnosis of ovarian torsion. *Fertil Steril.* 2000; 73:1047-50.
9. Naffaa L, Deshmukh T, Tumu S, Johnson C, Boyd KP, Meyers AB, et al. Imaging of acute pelvic pain in girls: Ovarian torsion and beyond. *Curr Probl Diagn Radiol.* 2017; 46: 317-29.
10. Anders JF, Powell EC. Urgency of evaluation and outcome of acute ovarian torsion in pediatric patients. *Arch Pediatr Adolesc Med.* 2005; 159: 532-5.
11. Cunningham FG, Leveno KJ, Bloom SL, Hauth JC, Rouse DJ, Spong CY. Reproductive tract abnormalities. In: Cunningham FG, Leveno KJ, Bloom SL, Hauth JC, Rouse DJ, Spong CY, eds. *Williams Obstetrics.* 23rd ed. New York, NY: McGraw-Hill; 2010. pp. 890-911
12. Condous G, Khalid A, Okaro E, Bourne T. Should we be examining the ovaries in pregnancy? Prevalence and natural history of adnexal pathology detected at first-trimester sonography. *Ultrasound Obstet Gynecol.* 2004; 24: 62-6.

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