Adnexal torsion in a first trimester pregnant patient

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Abstract

Adnexal torsion in pregnancy represents an obstetrical emergency. However, the diagnosis is often delayed due to nonspecific clinical findings leading to maternal morbidity as well as, fetal morbidity and mortality. We present an interesting case of adnexal torsion in a first trimester pregnant patient who developed adnexal infarction and required salpingo-oophorectomy.

Keywords: Adnexal torsion, Corpus luteal cyst, Gangrene, Oophorectomy, Abdominal pain

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Introduction

Adnexal torsion is a gynaecological emergency where the adnexa rotates on its vascular pedicle compromising its blood supply leading to vascular stasis, venous congestion, haemorrhage, infarction, and ultimately necrosis.

2.7% of all acute surgical emergencies in gynaecology can be attributed to adnexal torsion[1], but in pregnancy, maternal ovarian torsion is a rarity, with a reported incidence of 1 to 10 per 10,000 spontaneous pregnancies.[2] Nonspecific clinical symptoms as well as difficulties in performing a physical examination especially in the second half of pregnancy delays correct diagnosis and early intervention.

Adverse outcomes include peritonitis, abortion and preterm labour.

Case Report

22 year old primigravida with 9 weeks gestation presented to our tertiary care hospital with severe lower abdominal pain, nausea and vomiting. Lower abdominal pain was of 15 days duration and dull aching in nature. Pain progressed in severity to become excruciating since last 1 day, was not relieved by medication and was associated with multiple episodes of nausea and vomiting. There was no history of vaginal bleeding, fever, or any bladder or bowel complaints. There was no history of ovulation induction therapy or any previous surgeries.

On examination, her temperature was 37.6 degree C, pulse was 100 beats/min, blood pressure was 100/70 mm Hg. She was conscious, oriented with no signs of pallor. Her cardiovascular and respiratory system examinations were normal. On abdominal examination, a right lower abdominal mass was seen reaching upto the umbilicus. Tenderness and guarding was present in the lower abdomen. Pervaginal examination revealed a 8 weeks sized uterus, closed cervix and a 10 cm right adnexal mass which was cystic in consistency, freely mobile and tender.

Ultrasonography of abdomen and pelvis with Colour Doppler showed a single live intrauterine pregnancy of 9.4 weeks, a 7 x 6.9 x 6.2 cm anechoic cystic lesion in right adnexa with minimal peripheral vascularity, another similar cystic lesion of 2.3 x 1 cm, moderate free fluid in the pelvis with possibility of ovarian torsion (Fig. 1, 2). Her haemoglobin was 13gm%, white cell count was 13,800 cells/cumm, platelet count was 3,23,000 cells/cumm, serum creatinine was 1 mg%, serum electrolytes were normal and INR was 1.09.

Fig. 1: Ultrasound showing single live intrauterine pregnancy of 9.4 weeks

Fig. 2: Ultrasound showing a 7 x 6.9 x 6.2 cm anechoic cystic lesion in right adnexa

A presumptive diagnosis of right adnexal torsion was made. The patient was counselled about her condition, need for emergency exploratory laparotomy, and possibility of salpingo-oophorectomy and risk of abortion. Under spinal anaesthesia, vertical midline infraumbilical incision was taken for exploratory laparotomy.

In-situ findings:

- Enlarged gangrenous right ovary, 10 x 10 cm, showing smooth surface, intact capsule, no surface excrescences with three twists of the attached infundibulopelvic ligament (Fig. 3)
- Edematous, congested, gangrenous, enlarged right fallopian tube
- Uterus of 8 weeks size
- Minimal blood stained peritoneal fluid
- Left ovary and fallopian tube appeared normal

A right salpingo-oophorectomy was performed and specimen was sent for histopathological examination. (Fig. 4) HPR – corpus luteal cyst. Peritoneal fluid for cytology showed no malignant cells.

Fig. 3: Intraoperative picture showing gangrenous right ovary while the left adnexa appears normal

Fig. 4: Excised tubo-ovarian mass weighing 260 gms with dimensions of 10 x 7 x 6 cm

Postoperatively, she was started on progesterone support. On repeat ultrasound, a viable foetus was seen following which, the patient was discharged on day 7 after an uneventful postoperative course. On regular antenatal follow up, in last six months the foetus shows adequate growth and development.

Discussion

Complete or partial rotation of the ovary around its vascular axis results in torsion. It occurs more commonly during pregnancy than in the non-pregnant state. A pathologically enlarged ovary is more likely to undergo torsion rather than a normal ovary.[3] In the early stages, there is continued arterial flow with blockade of the venous and lymphatic channels, resulting in enlargement of the ovary, which can be massive. If this torsion remains untreated, arterial stasis will follow leading to haemorrhagic infarction and necrosis of the ovary. About 60% of adnexal torsions are right sided, as sigmoid colon limits the mobility of left ovary.[3]

Risk of ovarian torsion have been identified in the following instances- developmental abnormalities (of fallopian tube/mesosalpinx), ovarian masses, pregnancy, assisted conception, previous pelvic surgeries.[4]

Enlarged corpus luteum cysts with the laxity of supporting structures during pregnancy predisposes to torsion. Thus, torsion risk is greatest in the first trimester and decreases thereafter.[5] Benign tumours rather than malignant are more likely to undergo torsion, with dermoid tumours being the most common.[4]

Ultrasound and Doppler are the most important investigations for patients with suspected ovarian torsion, while CT and MRI modalities have limited use.

Timely surgical intervention with the aim of preservation of ovarian function is the cornerstone of treatment. Conservative management in the form of laparoscopy/laparotomy with uncoiling of the torted ovary and possible oophoropexy is favored in the early

stages in the presence of viable ovary. Oophorectomy is obviously required in cases of ovarian tissue necrosis, severe vascular compromise or peritonitis.

Our patient presented in the first trimester of pregnancy after experiencing several days of abdominal pain. By that time, she had developed completely gangrenous and enlarged right ovary and had to undergo adnexectomy. However, with urgent intervention and progesterone support, we ensured a good foetal outcome.

In modern obstetrics, even with the technological advances and expertise in ultrasonography, the diagnosis of this disease remains difficult, especially during pregnancy, and occasionally remains a dilemma.

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