

CASE REPORT

An Intrauterine Pregnancy with Tubo-ovarian Torsion mimicking Ruptured Tubal Ectopic Pregnancy

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ABSTRACT

Aims and objectives: Adnexal torsion is a rare gynecological emergency that requires an early surgical intervention to save the adnexa from irreversible damage. Our study is about the clinical presentation and management of adnexal torsion in a pregnant woman in a tertiary care center.

Materials and methods: This case study was done in a pregnant woman who came with adnexal torsion in the first trimester in the labor room of Government Medical College and Patiala, Punjab, India.

Results: Torsion ovarian cyst is found in 5 per 10,000 women in pregnancy. The woman was suspected of having heterotopic pregnancy (an intrauterine pregnancy with ruptured tubal ectopic pregnancy). However, she was diagnosed as intrauterine pregnancy with adnexal torsion during laparotomy.

Conclusion: Adnexal torsion is a rare emergency, which requires a high index of clinical suspicion for diagnosis as the symptoms are nonspecific. Imaging helps in diagnosis, but most of them are diagnosed intraoperatively. Diagnosis is made clinically along with imaging modalities. Ultrasound with color Doppler is the most commonly used imaging modality. An early surgical intervention helps in salvaging the adnexa and prevents further complications.

Keywords: Pregnancy, Torsion, Ultrasound.

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INTRODUCTION

Adnexal torsion is one of the few gynecological surgical emergencies. Ovarian torsion is defined as partial or complete rotation of the ovarian vascular pedicle

causing obstruction to venous outflow and arterial inflow.¹ When fallopian tube also twists with the ovary, it is known as adnexal torsion.² Adnexal torsion mostly occurs in the child-bearing group, but is not uncommon in premenarchal girls or postmenopausal women (including pregnancy).³ It is usually associated with a cyst or a tumor, the most common being mature cystic teratoma. Delay or misdiagnosis can result in the loss of the affected ovary and subsequent reduced reproductive capacity.⁴ As the symptoms are nonspecific, it can lead to delay in diagnosing adnexal torsion. Torsion ovarian cyst in pregnancy is very rare, with an incidence of 5 per 10,000. Ovarian torsion occurs most frequently in the first trimester, occasionally in the second, and rarely in the third. Laboratory investigations and imaging using Doppler scan or magnetic resonance imaging (MRI) help in diagnosis. Torsion of ovary is a dreaded complication leading to infarction, infection, sepsis, peritonitis, and adhesions when treatment is delayed.

CASE REPORT

A 24-year-old pregnant woman presented to the labor room emergency in the Government Medical College Patiala, Punjab, India on April 3, 2016, at 12:30 pm as G3A2 at 7 weeks 4 days intrauterine pregnancy with right ovarian and tubal torsion. Patient was suspected as a case of heterotopic pregnancy with an intrauterine and a right ruptured ectopic pregnancy.

Patient came with painful abdomen since 5 hours. There was no history of bleeding or any discharge per vaginum. On examination, her vitals were PR 86, blood pressure 118/70, RR 18, and temperature was 98.4°F. Cardiovascular, respiratory, and central nervous system examinations were all normal. There was tenderness in right iliac fossa on palpation, but there was no guarding and rigidity on abdominal examination. On bimanual examination, uterus was 6 to 8 weeks size with os closed. A mass of about 4×2 cm was palpable in the right fornix, which was tender. Left fornix was free and nontender. The urine pregnancy test was again repeated, which was positive.

Urgent ultrasonography (USG) was done in which there was a single live intrauterine G-sac of 7 weeks 4 days with yolk sac and no fetal pole, and a heterogeneous mass of about 5.5×4 cm in size with cystic areas in the right

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adnexa, not separately defined from right ovary. Left ovary was normally visualized. Final report made on USG was ruptured ectopic pregnancy with intrauterine gestation sac (heterotopic pregnancy).

Investigations

Hemoglobin = 10.5 gm%, Total leukocyte count = 7,900, Bleeding time = 1'40", Clotting time = 2'45"

Prothrombin Index (PTI) = 100%, Platelets = 206,000, Blood urea = 24, Serum creatinine = 0.8.

Decision was taken for urgent laparotomy. Intraoperatively, there was a 5 × 6 cm torsion right ovarian cyst present with torsion right tube. Tube was congested and edematous. Ovary and tube were both twisted upon itself twice and were gangrenous. No hemoperitoneum was present. Left tube and ovary was normal (Fig. 1). So, right salpingo-oophorectomy was done and sent for histopathology.

Postoperatively, uterine pregnancy was continued with human chorionic gonadotropin (hCG) and progesterone injections. On the 7th postoperative day, an

USG was done, which showed a single live intrauterine fetus of 13 weeks 6 days. Fetal heart rate was 160. Placenta was forming posteriorly. Liquor was adequate. Patient was monitored closely, managed conservatively, and discharged in satisfactory condition on the 9th postoperative day.

A small part of tube was sent for tuberculosis-polymerase chain reaction and the report was negative. The holoprosencephaly (HPE) report was suggestive of benign cystic teratoma (dermoid cyst) (Fig. 2).

DISCUSSION

The torsion ovarian cyst is a rare occurrence in pregnancy. The risk of ovarian torsion rises fivefold during pregnancy. Although the cause of torsion ovarian cyst is not known, most commonly observed adnexal masses associated with pregnancy are functional cysts, dermoid, and serous cystadenomas.⁵ The most frequent complication is torsion. Majority of the adnexal torsions (around two-thirds) are right sided, as the mobility of the left ovary is limited by

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Patient's Name :	Histo / Cyto No.: H-1184/16
Age & Sex :	Date of Report :
Ward / Hospital :	CR No. :
Material :	Referring Doctor:
Examined :	
Microscopic Examination	
Sp. labelled as Rt. Adnexal Mass	
Gross -	
MIE - Multiple section from received to show mature keratinising SSE, keratin flakes, sebaceous glands, hair follicles, mature adipose tissue, numerous congested blood vessels.	
HPE of MIE - Benign cystic teratoma (Dermoid Cyst.)	
MOD. Pathologist Dr. K. C. Gupta (Asst. Professor)	

Fig. 1: Holoprosencephaly report



Fig. 2: Torsion tube and ovarian cyst

the sigmoid colon. Most common risk factor for ovarian torsion is ovarian stimulation, as found during early pregnancy or infertility treatment.⁶ Our patient was suspected to have an intrauterine heterotopic pregnancy and ruptured tubal ectopic pregnancy, but it was diagnosed as an adnexal torsion intraoperatively. Such patients usually present with acute severe pain abdomen, and pelvic examination may reveal a tender cystic mass separate from the uterus; similar findings were found in our patient.

Differential diagnosis includes uterine leiomyomas, nonpregnant horn of bicornuate uterus, appendiceal abscess, diverticular abscess, pelvic kidney, retroperitoneal tumors, ectopic pregnancy, and retroverted gravid uterus. Complications of the cysts associated with pregnancy are torsion of the cyst, rupture, infection, malignancy, impaction of cyst in pelvis causing retention of urine, obstructed labor, and malpresentations of the fetus. Incidence of ovarian surgery required in pregnancy is about 1:1,312 pregnancies. Ultrasound should be the first imaging modality of investigation for ovarian mass in pregnant or nonpregnant women.⁷ The MRI can be safely used in pregnancy to evaluate tissue composition and differentiate ovarian mass from other abdominal mass. The clinical significance of cancer antigen 125 tumor marker in epithelial ovarian tumor in pregnancy is less, because it is elevated in the first trimester of pregnancy and declines with advancing gestational age.⁸

Sharma et al⁹ reported a case of 36 weeks pregnancy with torsion of large right ovarian cyst (18×10×10 cm) in which cesarean section was done with removal of cyst, which was gangrenous at the time of surgery. The patient had no symptoms and torsion was accidentally diagnosed on ultrasound.

Priyadharisini¹⁰ also reported a similar case of torsion right ovarian cyst of 7×5 cm in the first trimester

of pregnancy at 9 weeks in which laparotomy was done with ovarian cystectomy. Her HPE report showed benign serous cystadenoma of ovary. The patient was managed conservatively thereafter and was followed up and delivered by cesarean section at term.

CONCLUSION

It is the activity of the reflexes that work for such patients with early suspicion and diagnosis and quick surgical management that can save the life of the patient as well as her pregnancy. However, emergent surgical intervention may be associated with increased risk of adverse outcome for both mother and fetus. Optimal management lies in weighing the risk of expectant management *vs* intervention in individual cases. Awareness and high level of clinical suspicion of adnexal torsion with imaging help in early diagnosis and appropriate management of the condition. Hence, patients coming in the first trimester with suspicion of ectopic pregnancy should be carefully investigated and managed for good perinatal outcome.

CLINICAL SIGNIFICANCE

Ovarian masses of 6 to 8 cm are associated with significantly higher risk of torsion.³ Sixty percent of ovarian torsion occurs between 10 and 17 weeks of gestation, and emergency intervention is needed for all cases of torsion to relieve symptoms. Abortion is a common complication of abdominal surgery in the first trimester, and in the second trimester, intrauterine growth restriction and preterm labor can occur. Germ cell tumors are proportionately more common in pregnant women. Of the germ cell tumor markers, lactate dehydrogenase is not altered by pregnancy, but hCG and alpha fetoprotein levels are not reliable during pregnancy.¹¹ Expectant management is recommended for most pregnant patients with asymptomatic, nonsuspicious cystic ovarian masses. Surgical intervention during pregnancy is indicated for large and/or symptomatic tumors and those that appear highly suspicious for malignancy on imaging.¹² Simple cystic masses that are <6 cm do not require laparotomy during pregnancy as the risk of malignancy is below 1%.¹³ If ovarian mass persists into the second trimester and it is >8 cm, rapidly growing, or a complex mass suspicious of malignancy, surgery should be performed.¹⁴

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