

Large Dermoid Cyst Causing Adnexal Torsion in the Second Trimester of a Pregnancy Finished with Spontaneous Vaginal Delivery

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ABSTRACT

Background: Dermoid cysts are the most common benign germ cell tumors of ovary, comprising up to 20% of all ovarian tumors. They are also the most frequent ovarian tumors discovered during pregnancy, most commonly diagnosed in the second trimester. The risk of complications such as torsion, rupture, and infection increase during pregnancy. Ovarian torsion (OT) during pregnancy is a rare emergency condition requiring immediate surgical intervention to prevent mortality and reduce the risk of complications. This study presents a case of a large dermoid cyst causing ovarian torsion during the second trimester.

Case Report: A 26-year-old primiparous patient at 20 weeks gestation presented with nausea, vomiting and acute abdominal pain. Ultrasound and MRI showed a left ovarian dermoid cyst with concomitant torsion of the ovary. The patient underwent an emergency laparotomy with left salpingo-oophorectomy. Her histopathology report showed a benign dermoid cyst and hemorrhagic infarction of the left adnexa. The patient subsequently had an induced vaginal delivery of a full-term baby, without complications.

Conclusion: Ovarian torsion should be a part of the differential diagnosis of pregnant women presenting with acute abdominal pain during the second trimester of pregnancy. Early diagnosis and subsequent early surgical intervention reduce the risk of complications for the mother and fetus. Treatment is surgical either laparoscopically or by laparotomy depending on the gestational age. Postoperatively, pregnancy should be carried out to term and vaginal delivery is safe without complications.

BACKGROUND

Dermoid cysts (cystic teratoma) are the most common ovarian tumors in women during childbearing age accounting for up to 20% of ovarian tumors in adults. They originate from germ cell layers and usually contain ectodermal, mesodermal and endodermic tissue. They are also the most frequent ovarian tumors discovered during pregnancy, most commonly diagnosed in the second trimester. The risk of complications such as torsion, rupture and infection increase during pregnancy [1]. Ovarian torsion refers to total or partial rotation of the ovarian tissue around its vascular axis leading to decreased venous return, stromal edema, hemorrhagic infarction and necrosis of the ovarian stroma. Ovarian torsion (OT)

incidence during pregnancy is a rare emergency condition that can cause severe maternal morbidity or lead to premature labor or fetal distress [2].

Torsion occurs when the ovary is enlarged due to functional cysts or neoplasms. The most frequent nonfunctional neoplasms are serous or mucinous cystadenomas, benign cystic teratomas (dermoid cysts), and ovarian fibromas. The incidence of ovarian torsion rises 5-fold during pregnancy to approximately 5 per 10,000 pregnancies. The incidence usually increases after ovarian stimulation for the treatment of fertility. Most common cause in pregnancy is a corpus luteum cyst, which usually regresses

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spontaneously by the second trimester. Therefore, ovarian torsion in pregnancy occurs most commonly in the first trimester, occasionally in the second, and rarely in the third [3]. Diagnosis can be difficult as clinical presentation varies and is mainly based on clinical symptoms and imaging techniques such as ultrasound and MRI. MRI is more useful in the second and third trimesters of pregnancy for diagnosing abdominal pain, where the ovaries and appendix are more difficult to visualize by ultrasound and should be considered early in the investigation of pregnant women with abdominal pain, not thought to be obstetric in nature [4]. Differential diagnosis could be other acute abdominal conditions such as appendicitis, ureteral or renal colic, cholecystitis and bowel obstruction, appendiceal abscess and ectopic pregnancy. The presence of an ovarian mass on ultrasound may indicate an adnexal torsion [5]. Management of adnexal torsion in pregnancy remains controversial. In the first trimester, the risk of fetal loss is the smallest with modern anesthetic techniques. In the second and third trimester, surgery is associated with the risk of premature labor. During the first trimester of pregnancy, it can be approached laparoscopically. In the second or third trimester, laparotomy is

the choice of approach, due to enlarged ovary and size of pregnant uterus [6].

CASE STUDY

A 26-year-old pregnant patient presented to the University Clinic of Obstetrics and Gynecology in her first pregnancy at 20 weeks' gestation with a sudden onset of severe abdominal pain associated with nausea and vomiting. She gave no history of vaginal bleeding or discharge and no significant past medical and surgical history were noted. She conceived spontaneously and had an uneventful pregnancy without antenatal checkups. Blood analysis showed increased inflammatory parameters (increased C-reactive protein up to 247 and a leukocytosis of 29,000/mm³). The patient had tumor marker (CA-125) level of 90 u/ml. Transvaginal ultrasonography showed a single viable intrauterine fetus with a gestational age of approximately 20 weeks. Figure 1 Above the uterus, a large tumorous mass was seen with variable echogenicity measuring 10x8 cm. Doppler sonography of the left ovary didn't show visible arterial or venous blood flow, indicating left adnexal torsion (Figure 2).



Figure 1

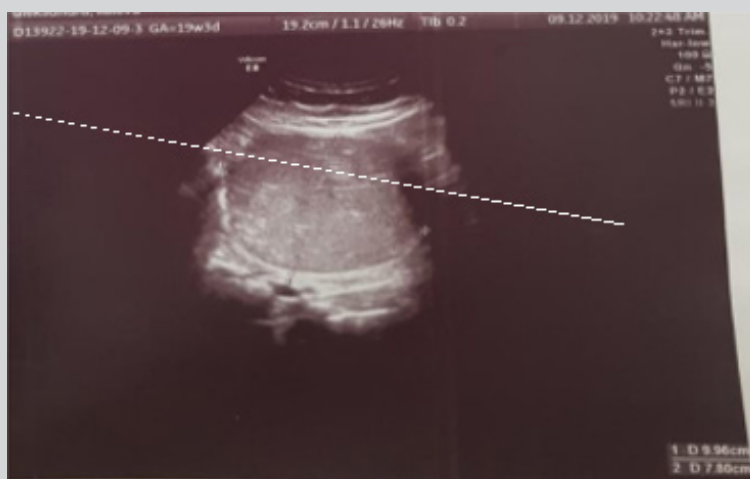


Figure 2

The patient was immediately hospitalized and an MRI without contrast was done detecting a mass of 131,69 x 153 mm above the uterus with a heterogeneous signal, consisting of fluid and a fatty component in addition to a solid part indicating a teratoma dermoid

cyst, probably originating from the left ovary. left ovary torsion is noticed with a hemorrhagic infarction. Free fluid collection in the Douglas cavity was also observed with fluid collection around both the spleen and liver. The right ovary was normal in size and showed

small functional follicles. Upon the MRI conclusion of ovarian torsion, the decision of urgent laparotomy was taken after consent regarding risk of antepartum surgical intervention. An emergency exploratory laparotomy under general anesthesia was performed through midline vertical supraumbilical and infraumbilical incision. Intra-operative assessment showed a gravid uterus with torsion of the left ovary, with a purple/black color indicating necrosis (Figure 3). A left salpingo-oophorectomy was performed with staging. The

histopathological result was consistent with the diagnosis of a dermoid cyst and hemorrhagic infarction of the left adnexa. Post operatively, the patient was given antibiotics and progesterone therapy. She was placed on progesterone therapy upon hospital discharge on the 7th postoperative day in a good condition. She was regularly followed until term. At 38 gestational weeks, due to oligohydramnios, the patient had an induced vaginal delivery of a full-term healthy baby, without complications.



Figure 3

CONCLUSION

Ovarian torsion should be a part of the differential diagnosis of pregnant women presenting with acute abdominal pain during the second trimester of pregnancy with an adnexal mass on ultrasound. Early diagnosis and subsequent early surgical intervention reduce the risk of complications for the mother and fetus, and timely surgical management, either laparoscopically or by laparotomy is essential to prevent abortion of the pregnancy and improve the possibility of adnexal salvage. Postoperatively, pregnancy should be carried to term and a vaginal delivery is recommended as it is usually safe with no significant complications [7].

CONSENT

Written informed consent was obtained from the patient for the publication of this case report. A copy of the written consent is available for review if needed.

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