

Ovarian tumor necrosis in monochorionic twin pregnancy. A case report

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SUMMARY

Ovarian tumors are a rare complication of pregnancy. Their diagnosis in the first trimester of gestation is not usually problematic. They can be diagnosed incidentally in the third trimester of pregnancy during cesarean section or when symptoms appear. This article highlights the need to observe all recommended diagnostic tests in pregnant women and presents the preferred obstetric management to detect pregnancy complications and promptly implement adequate treatment. **Key words:** twin pregnancy; cesarean section; ovarian torsion

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INTRODUCTION

Adnexal diseases are a rare complication of pregnancy and are observed in 0.5–2.2% of pregnant women [1]. Most lesions are detected in the first trimester of gestation by ultrasound [2]. At the end of pregnancy, these disorders are diagnosed on the basis of clinical signs and symptoms, or incidentally during a cesarean section.

The aim of this paper is to present adnexal torsion, a rare complication, which developed in a patient in monochorionic twin pregnancy in the 33rd week of gestation.

CASE DESCRIPTION

A 34-year-old patient in the 33rd week of twin pregnancy was admitted to the department of gynecology and obstetrics of the provincial hospital in Białystok, Poland, with pain in the lower abdomen. In 2014, the patient suffered a spontaneous miscarriage in the 6th week of gestation. In 2015, she delivered a term neonate with birth weight of 3220 g via a cesarean section. The current monochorionic twin pregnancy was described only in the 20th week of gestation.

At admission, the cervix was not effaced from the sacrum. There was no amniotic fluid leakage. Pain on compression was noted on the right side. Peritoneal signs and Goldflam's sign were negative bilaterally. US revealed two cephalic fetuses and a single (monochorionic) placenta on the anterior wall. Fetal weight was assessed as appropriate for the gestational age (fetus 1: 2111 g, fetus 2: 2479 g). No fetal membranes were noted between the fetuses. Moreover, there was a heterogeneous cystic lesion (ovary? clots?) measuring 12 cm in diameter on the right side behind the uterus.

Cardiotocography revealed irregular uterine contractions with normal heartrate of both fetuses. In order to start steroid therapy, tocolysis and spasmolytic treatment were initiated.

Laboratory tests demonstrated: leukocytosis: $12.4 \times 10^3 \mu\text{L}$ and fibrinogen 604 mg/dL. General urinalysis revealed: ketones 150 mg/dL, protein 25 mg/dL and leukocytes 20–30 per high power field. The patient with monochorionic monoamniotic pregnancy was deemed eligible for pregnancy termination by a cesarean section with an intraoperative examination of the adnexal lesion.

The patient delivered live male neonate 1 with the body weight of 2100 g with green amniotic fluid (Apgar 5). Next, live male neonate 2 was delivered with the body weight of 2180 g with clear amniotic fluid of low amount (Apgar 3). The retrieved placenta was complete, from monochorionic diamniotic pregnancy. The surgery revealed, right ovarian torsion due to a grape-like hemorrhagic cyst with the size of approximately 12 cm. The left ovary was found polycystic with the size of approximately 10 cm with no signs of necrosis. Due to extensive necrotic changes, the right adnexa were removed and sent for an intraoperative evaluation. The final histopathological examination reported a hemorrhagic and necrotic tumor with no signs of malignancy, a cystadenoma with pedicle torsion.

DISCUSSION

Ovarian torsion during pregnancy accounts for 2.7% of surgical interventions [3]. It is commoner on the right side [4]. The sigmoid colon located adjacent to the left adnexa limits the space for torsion. Moreover, interventions are more frequent with symptoms on the right side due to a suspicion of appendicitis. The most typical adnexal tumors during pregnancy are ovarian functional cysts and corpus luteum cysts [5]. The remaining lesions are teratomas, serous and mucinous cystadenomas and endometrial cysts [6]. Malignant lesions are usually germ cell tumors and borderline tumors [6]. During pregnancy, gonadotropin secreted by the placenta stimulates the ovaries, thus increasing the risk of torsion. Torsion usually involves the entire adnexa with the diameter of 6–8 cm [7].

Symptomatic treatment of adnexal torsion may mask the symptoms and result in their temporary regression. However, delayed surgery may lead to peritonitis. The predominant symptom of ovarian torsion during pregnancy is abdominal pain at the affected side. This condition results in disorders of venous blood outflow as well as arterial blood and lymph inflow. This leads to passive hyperemia, hemor-

rhagic lesions, thrombosis and necrosis. Signs and symptoms are atypical with concomitant elevated inflammatory markers (leukocytosis, CRP), fibrinogen and Ca-125. A detailed interview helps differentiate adnexal conditions from those involving the urinary or gastrointestinal tract. Physical examination should be followed by ultrasonography, including an abdominal US scan. The usefulness of this method in advanced pregnancy is limited, with the exception of Doppler imaging. MRI is also mentioned in the diagnostic algorithms of adnexal torsion.

Symptoms associated with adnexal torsion are an indication for a surgical intervention in any trimester of pregnancy. It is believed that detorsion is safe unless there are necrotic changes in the ovary. The best time for a surgical intervention is 24 hours after diagnosis. The preferred surgical method of ovarian torsion in early pregnancy is laparoscopy [7]. It can be conducted safely with carbon dioxide pressure maintained at a level of 10–13 mmHg [8]. Ovarian cysts that are smaller than 6 cm and exhibit features of benign lesions are mainly treated conservatively due to the possibility of their spontaneous regression. Ovarian lesions that are greater than 10 cm are usually treated surgically, typically due to their torsion. The management of cysts measuring 5–10 cm in diameter is the most controversial. If signs of malignancy are noted in US, surgery is indicated [7]. Considering pregnancy safety, the optimal time for such an intervention is between week 16 and 28 of gestation. If cysts show signs of malignancy in US or if there are complications, urgent surgical intervention is required irrespective of the gestational age [7].

In monochorionic monoamniotic twin pregnancy, which is an extremely high risk pregnancy, delivery after steroid therapy should take place after week 32 of gestation. In uncomplicated monochorionic diamniotic twin pregnancy, delivery should be planned after week 37 of pregnancy. Early hospitalization in monochorionic pregnancy is indicated when additional complications develop, including twin-to-twin transfusion syndrome (TTTS), other than cephalic fetal presentation, difference in fetal weight >20% and emergency states. In the case reported above, too great mass of ischemic tissue with concomitant pain was also an independent indication for surgical adnexal removal due to extensive necrosis.

CONCLUSION

Ovarian torsion should be considered in the differential diagnosis of obstetric emergencies. The recommended diagnostic tests in pregnant women and the timing of their performance should be strictly observed. According to the recommendations of the Polish Gynecological

Society, chorionicity and amnionicity should be determined in multiple pregnancies before week 10 of gestation [9]. This is very important in the aspect of care for the pregnant patient as this assessment at the end of pregnancy is difficult. Each delay in diagnosis and treatment may lead to the loss of adnexa and fertility. It can also be a threat for the mother and fetus.

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