

Case Report

Papillary serous cystadenoma of ovary: A huge ovarian cyst complicating the pregnancy

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Abstract

Managing ovarian masses during pregnancy is a critical issue while they can complicate pregnancy either by their size or nature. In this report, the management of a large ovarian mass as an interesting incidental finding on ultrasonography will be discussed. In present report, a 33-year-old woman referred with a dull abdominal pain in 32th weeks of gestation. Her sonographic evaluation revealed a large solid-cystic mass of right ovary about 20 centimeter length. The patient underwent a laparotomy under regional anesthesia. There was a large mass originating from right ovary without any adhesion to surrounding tissues and a normal pregnant uterine in third trimester. The right ovary complicated by a multilocular solid-cystic mass was removed and the pathology report showed papillary serous cystadenoma of ovary. In outpatient management, the mother passed a normal pregnancy. In conclusion; physiological changes during pregnancy may complicate manifestations of diseases in pregnancy. Under diagnosis of any abdominal complaint may lead to life-threatening situations such as overgrowth or torsion of ovarian masses. Gentle action with minimal manipulation of pregnant uterus could prevent adverse outcomes.

Key Words:

Pregnancy, ovarian cysts, cystadenoma, serous, abdominal pain

Introduction

Ovarian masses during pregnancy can be functional, benign or malignant neoplasm [1]. While most of ovarian cysts resolve till the second trimester and are not malignant, sonographic evaluation as well as determining tumor markers in order to rule out malignancies is still an important issue [2]. Managing these masses during pregnancy depends on many different factors. Tumor size, type, origin and patient gestational age and medical condition are the most important factors in choosing an appropriate management [3]. In this report, the management of a large ovarian mass as an incidental finding on ultrasonography will be discussed.

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Case Presentation

A 33-year-old woman referred to us with a dull abdominal pain. The patient was pregnant with gestational age of 32 weeks. She had a normal vaginal delivery 4 years ago. There was not any other event in her past medical history except curettage for abortion. In physical examination, vital signs were normal. The abdominal pain was mild and tolerable with minimal periumbilical tenderness. The uterine height was the same as the gestational age. There wasn't any sign of vaginal bleeding or leakage. The membranes were intact and the cervix wasn't dilated. Fetus external monitoring showed normal heart rate and there wasn't any uterine contraction. Her sonographic evaluation revealed a normal fetus in 32 weeks of gestation and a large solid-cystic mass of right ovary about 20 centimeter length. So the patient was admitted and scheduled for surgical operation. Laboratory tests including complete blood count, blood sugar and electrolytes and tumor markers (carcino

embryonic antigen (CEA) and CA125) were within normal limits (CA-125: 35 IU/ml - normal range according to pregnancy trimester: 0 - 56.3 U/ml and CEA: 1.1 ng/ml - normal range according to pregnancy trimester: <2.5 ug/L). According to her stable condition and gestational age, the operation was postponed for 48 hours. This delay was made in order to prescribe betamethasone for provoking fetal lung maturation. Thus the mother received two doses of betamethasone (12 mg intramuscularly) separated by 24 hours and parenteral ampicillin (2 grams) every 6 hours before surgery. At the surgery day, laparotomy was done under regional anesthesia. There was a large mass originating from right ovary without any adhesion to surrounding tissues and a normal pregnant third trimester uterus. The right ovary was removed with minimal manipulation of the uterus. A multilocular solid-cystic mass with internal hemorrhagic areas was removed (Figure1). The pathology report showed papillary serous cystadenoma of ovary (Figure2). During postoperative period, the patient was monitored carefully for both maternal and fetal condition and also uterine contractions. Also magnesium sulfate infusion (2 grams per hour for 12 hours) was prescribed in order to control probable preterm labor. The patient was discharged without any complications 3 days after surgery. During follow-up, the patient's pregnancy course was uneventful. She gave birth to a healthy male infant (2700 grams) under analgesic gas of entonox at 41 weeks of gestation.

Figure 1.



A multilocular solid-cystic mass weighting 3 kilograms with internal hemorrhagic areas was removed

Discussion

Ovarian masses are common findings in general gynecology [4]. Ovarian cysts are found in 4.1% of second-trimester and third-trimester obstetric sonographic examinations [5]. Of these, neoplasms constitute a significant number and most are benign [4]. Most of sonographic detectable cysts are < 3.0 cm in diameter and usually decline after 10th week of gestational age. Adnexal masses persisting beyond 1st trimester are most likely to be neoplasms, especially if there are complex sonographic features [1]. Serous tumors are approximately one half of all surface epithelial stromal ovarian tumors [6]. The most common symptom of adnexal masses is pain which can be mild or severe and usually is the result of torsion or rupture [3, 7]. However, it should be considered that large masses may be manifested with only mild abdominal pain. As physiologic and anatomical changes in pregnant women can cause abdominal pain, pathological conditions like ovarian mass may be ignored. As our case, a mild abdominal pain leads to finding of a large ovarian mass without torsion or rupture. Approximately 21% of benign tumors may develop torsion and most of ovarian torsions are seen during first trimester [8,9]. Before developing common imaging modalities such as ultrasound, adnexal masses were found on physical examination or whenever become symptomatic [3]. Ultrasound evaluation is 96.8% sensitive and 77% specific in diagnosing masses during pregnancy. Magnetic resonance imaging (MRI) can provide useful information in order to rule out probable differential diagnosis when diagnostic workup is equivocal. However, relying on sonographic finding is more helpful than MRI in presence of amenable to ultrasound examinations [1]. CA-125 level over the first trimester is useful for malignancy follow up and is elevated in 80% of epithelial ovarian malignancies [1, 3]. However, CA-125 ranges are slightly different during normal pregnancy trimesters. CA-125 during 1st trimester is significantly higher than 2nd trimester. Also, CEA level is higher during 3rd trimester. Ercan S et al. reported that these elevations are within normal levels [10]. Measuring other serum markers such as alpha-fetoprotein is useful in detecting germ-cell tumor [1]. However, measuring these serum markers alone and without the aid of imaging modalities can lead to unnecessary interventions [3]. Although it is not widely studied, laparoscopic surgery in pregnancy is as safe as open surgery. However, in order

to avoid uterine perforation, open laparoscopy is preferred. As this technique requires expert hands and equipment's, this procedure is not widely used in our department and open surgery is preferred [11]. While the best time for surgery is the beginning of 2nd trimester (to avoid spontaneous miscarriage in the first trimester and the risk of precipitating preterm delivery in the third trimester), some masses can be carefully followed till term and removed during cesarean section (C/S) [2, 8]. Surgery of ovarian tumors in pregnancy can be delayed until the onset of symptoms unless in the presence of a strong suspicion of malignancy.

Figure 2.



Pathologic specimen of the cyst, papillary serous cystadenoma of ovary

In cases of acute torsion or rupture, emergency surgery is needed and watchful waiting is not indicated [1]. Lee *et al.* found that there is no significant difference between women undergoing emergency surgery because of torsion and those undergoing elective surgery in term of adverse pregnancy outcomes [8]. Surgical management is indicated in three condition; 1- suspicion of malignancies, 2- development of complications, 3- masses above 5 centimeters near 18 weeks of gestation or rapid growing during pregnancy more than 30-50% [1]. Thornton JG *et al.* claim that removing the cysts which are suspected to rupture, torsion or those which are over 10 centimeter in diameter are reasonable [12]. Cysts occupying pelvis or obstructing labor canal will require C/S at term for preventing possible complications [2].

Cysts smaller than 5 centimeter can be managed conservatively while only masses between 5 and 10 centimeters with ultrasonic appearance can be managed conservatively. Septated cysts or cysts with solid or nodular parts should be removed as they are less likely to be resolved [12]. Tumor size and gestational age are two independent factors, affecting the determination of operation type. Laparoscopy is preferred for managing small tumors or tumors of early gestational age. Laparoscopic management is associated with short hospital stay and lower estimated blood loss [13]. However, this approach is not possible patients with large ovarian masses especially in the third trimester. Considering watchful management and reserving surgery in case of onset of symptoms can be considered for both groups. Although aspirating simple masses can avoid major surgery in some cases. It is not favorable in the case of complex cysts and laparotomy seems to be the acceptable approach [3]. It's also important to keep in mind that surgical intervention of adnexal masses in the third trimester may be associated with rupture of membranes, preterm labor and low birth weight [3, 14]. In our case, the operation was mandatory because of disturbing symptoms, enlargement of the mass and sonographic features expressed complex mass. As the operation was done with the least manipulation of the large uterus in a short time, fortunately preterm labor was not happened. Also, for preventing postoperative digestive complications one intramuscular injection of metoclopramide was prescribed before surgery [15]. Interestingly pregnancy was continued to 41 weeks of gestation and she delivered under analgesic gas of entonox which is safe for both mother and baby [16, 17]. In conclusion, treatment of ovarian masses in pregnancy should be structured individually. While physiological changes during pregnancy have special impact on clinical manifestation of disease, paying special attention to even mild abdominal pain in pregnant women is important. Under diagnosis of such problems may lead to life-threatening situations such as overgrowth or torsion of ovarian masses. If the operation is scheduled, gentle action with minimal manipulation of pregnant uterus could prevent adverse outcomes.

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Declaration of Interest

None

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