Adnexal Masses During Pregnancy

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Widespread use of ultrasound examination during pregnancy caused an increase in the detection of adnexal masses during pregnancy. These masses, while being mostly functional ovarian cysts and resolve spontaneously, may represent a wide range of different pathologies including malignancy. Although most masses may be managed conservatively during pregnancy, some may necessitate surgical interventions due to complications or findings suggesting malignancy. In this article, the diagnosis and management of adnexal masses detected during pregnancy are discussed based on three cases and a short review of the literature.

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Key words: Pregnancy, Adnexal mass, Ovarian cyst, Ultrasonography

Introduction

Diagnosing an ovarian mass during pregnancy is not uncommon due to the widespread use of routine prenatal ultrasonography. The incidence of ovarian masses detected during pregnancy is 1-2%.[1] As in non-pregnant state, the detection of an adnexal mass during pregnancy primarily causes some concerns about the possibility of ovarian malignancy. Fortunately, only 2-3% of adnexal masses in pregnant women are malignant.[1,2]

The management of adnexal masses during pregnancy presents a dilemma. Most of the patients are asymptomatic at the time of presentation and most of the adnexal masses detected during early pregnancy resolve spontaneously without posing any risks to pregnancy.[2,3] Therefore, expectant management is generally recommended as a safe option. Symptomatic, larger or more complex cysts are traditionally removed in the second trimester because of the risk of complications.[4]

The aim of this article is to discuss the diagnosis and management of adnexal masses detected during pregnancy with three cases and a short review of the literature.

Cases Report

The first case was a 30-year-old, gravida 2, parity 1 woman who had regular antenatal visits at out outpatient clinics. She had delivered her first baby 4 years ago at term via caesarean section. It was an uncomplicated pregnancy except for a dermoid cyst at her left ovary which was identified during caesarean section and was removed. The pathologic diagnosis was consistent with a mature cystic teratoma. During her second pregnancy, a routine ultrasound examination at 18th gestational week revealed a cystic mass at the left ovary. Transvaginal ultrasound showed a cyst of 80x67x84 mm with thick septa at the left adnexal area and minimal free fluid at the recto-uterine pouch. Pelvic MRI examination revealed similar findings. An exploratory laparotomy was performed due to severe pelvic pain at 19th gestational week. A 9 cm left ovarian cyst was excised. The patient was discharged form hospital 4 days after the surgery with an uneventful postoperative course. The pathologic examination revealed a diagnosis of struma ovarii. Remainder of her pregnancy was also uneventful without any signs of thyroid disorder and she gave birth to a term healthy infant via caesarean section.

The second case was a 31-year-old primiparous woman who first admitted to our hospital at 30th gestational week. During her first antenatal visit at another health center, she was diagnosed to have a left adnexal cyst at 9th gestational week. The ultrasound examination we performed showed a 5 cm of cystic mass at the left adnexal region. The patient did not keep on regular visits and she re-admitted at term. At 39th gestational week, she underwent a caesarean section and delivered a healthy male infant. During caesarean section, left ovarian cystectomy was performed for an ovarian cyst of 5 cm. The pathologic examination confirmed the diagnosis of a serous cyst.

The third case was a 42-year-old, gravida 2, parity 1 woman who admitted to our hospital at 23rd gestational week because of a cyst detected during ultrasonography by her obstetrician at the left ovary. She did not have a history of ovar-

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ian cyst previously. There was a 7x6 cm septated left ovarian cyst. During her follow-up, cyst persisted without any increase in the dimensions. The patient was delivered at 38th gestational week by caesarean section. The left ovary was seen to contain a multiloculated cystic mass with a diameter of 5 cm. Left salpingo-oophorectomy was performed due to a suspicion of ovarian malignancy. Frozen section examination was consistent with a mucinous cystadenoma. The final pathology confirmed the diagnosis.

Discussion

The number of asymptomatic adnexal masses detected at early pregnancy has increased significantly especially in the last two decades. This is largely due to the routine use of ultrasonography which is considered safe for both mother and fetus without any reported adverse effects.[5,6]

Approximately 90% of the adnexal masses diagnosed during the first trimester will disappear spontaneously during the follow-up[7] For this reason, the expectant management of women with ovarian cysts diagnosed in the first trimester should be encouraged since such an approach is safe without serious adverse outcomes for mother or fetus.[8] Also, unnecessary surgical interventions should be avoided during pregnancy because of the well-defined risks of miscarriage, preterm premature rupture of membranes, and preterm delivery.[9] Nevertheless, although the majority of adnexal masses resolve by the second trimester, persistent masses carry risks of torsion, rupture, hemorrhage, and obstruction of labor. These events may result in the need for emergent surgical interventions with increased risk of adverse outcome for both mother and fetus. So, surgical excision of persistent adnexal masses should be considered at 16 to 20 weeks of gestation.[10] The persistent lesions most frequently are benign in nature and include benign cystic teratoma, cystadenoma, endometrioma, simple cysts or leiomyomas.[7,11,12,13] An adnexal mass may unusually result from an ovarian malignancy. The type of malignant ovarian neoplasm during pregnancy may be epithelial, sex-cord stromal or germ cell.[10,14]

The diagnosis and characterization of the adnexal masses is mainly based on ultrasonographic features since tumor markers are much less specific during pregnancy. Serum alpha-fetoprotein, CA 125, human chorionic gonadotrophin and inhibin in the serum fluctuate significantly during pregnancy.[10] Indications for surgical intervention are mainly based on the clinical presentation and ultrasonographic findings. It is very important for the clinician to make the balance between operating too early with risk for miscarriage and too late with possibility of worse prognosis. Postponing surgery increases the risk for torsion, rupture and bleeding, which are indications for urgent surgery during pregnancy.[10,14] Postponing surgery may also result in delayed diagnosis and treatment of an ovarian malignancy. Surgical intervention is therefore indicated for persistent adnexal masses preferably during the second trimester. In a review evaluating the effects of non-obstetric surgical procedures on maternal and fetal outcome, it was documented that the rate of premature labor was 3.5% and the rate of prematurity was 8.2%. The fetal loss was observed in a total of 2.5% of pregnancies. Surgery in the first trimester did not appear to increase miscarriages and major congenital anomalies and should not be delayed when indicated. Adequate analgesia in the post-operative period is important since pain may induce premature uterine contractions. Prophylaxis for thrombosis should also be considered.[15] Most of the cases are managed via laparotomy when surgery is indicated. Laparoscopic surgery in the pregnant patient is not yet widely accepted due to concerns about fetal wastage, effects of carbon dioxide on the developing fetus, and long-term sequelae during childhood development exist. However, laparoscopic surgery may be completed successfully in most of the patients and in general conversion to laparotomy is not needed. Postoperative fetal monitoring should be performed for at least 24 hours. Fetal distress or demise is not expected and tocolytics are not needed. No evidence of developmental or physical abnormalities was reported in long - term follow-up. Therefore, laparoscopic surgery was proven to be as safe as open surgery in pregnancy without any effects to either mothers or children.[16] On the other hand, open laparoscopy (opening of the peritoneum under direct visualization instead of using the Verres-needle) is mandatory in order to avoid uterine perforation in pregnant women.[7]

Pregnancy-associated malignancies present significant challenges as a result of the conflict between optimal maternal therapy and fetal well-being.[14] Nevertheless, when an ovarian malignancy is seen during pregnancy, a midline staging procedure after the first trimester is mandatory during pregnancy similar to the non-pregnant state. Since early stage disease is more common (especially in germ cell tumors), cytology, adnexectomy, omentectomy and peritoneal biopsies will be adequate in most cases. Uterine manipulations should be limited in order to prevent premature contractions. However, the exploration of the Douglas and pelvis is frequently suboptimal due to the uterine volume. The decision on adjuvant chemotherapy during pregnancy depends on the pathology type and the prognostic factors.[7]

As a conclusion, ultrasonografically detected adnexal masses are seen with an increasing frequency during pregnancy. Expectant management is the preferred option, but surgery may be needed when lesions persist or mass-related complications occur. Most cases are managed via laparotomy if surgery is indicated. Laparoscopic surgery can also be performed safely during pregnancy in experienced hands.

Gebelikte Adneksiyel Kitleler

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Gebelik sırasında ultrason incelemesinin yaygın olarak kullanımıyla birlikte, bu dönemde adneksial kitlelerin ortaya çıkarılma sıklığı artmıştır. Bu kitleler, he ne kadar büyük çoğunluğu fonksiyonel over kistleri olup kendiliğinden kaybolsa da, malignite dahil çok çeşitli patolojilerin bir göstergesi olabilir. Gebelikte adneksial kitlelerin büyük bir kısmında konservatif yaklaşım uygulanabilir, fakat, bazıları komplikasyonlar ya da malignite düşündüren bulgulardan ötürü cerrahi müdahale gerektirir. Bu makalede, gebelikte adneksiyel kitlelerin tanı ve yönetimi üç vaka üzerinde tartışılmış ve kısa bir literatür özeti yapılmıştır.

Anahtar Kelimeler: Gebelik, Adneksial kitle, Over kisti, Ultrasonografi

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