Adnexal mass in Pregnancy

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Prevalence

The liberal use of prenatal ultrasound for evaluation of the fetus has also resulted in increased detection of asymptomatic adnexal masses during pregnancy.

Although the vast majority of these masses are benign, the possibility of cancer must be considered.

The incidence of adnexal masses complicating pregnancy varies from 0.1 to 2.4 percent, and approximately 1 to 6 percent of these masses are malignant.
Patient Presentation

Prior to the widespread use of ultrasound, most adnexal masses in pregnant women remained unrecognized until cesarean delivery or until they became symptomatic, usually in the postpartum period.

Now many asymptomatic masses are recognized in the first half of pregnancy when they are identified incidentally during an antenatal ultrasound performed for obstetrical indications.
Patient Presentation

- Nonspecific symptoms
- Palpable mass
- Acute abdominal pain
- Elevated maternal analytes

In one review, adnexal masses between 6 and 8 cm in diameter had a significantly higher rate of torsion (22 percent) than either smaller or larger masses *

In a review of seven studies, there were 563 adnexal masses in 557 women. Of these, 48 percent were classified as simple and 53 percent as complex. Among the simple masses, 1 percent were malignant whereas in the complex masses, 9 percent were malignant.

Benign neoplasms:

Most adnexal masses identified in pregnant women are benign simple cysts less than 5 cm in diameter. Most of these are functional ovarian cysts, either follicular or corpus luteum cysts, that occur as part of the normal physiological function of the ovary.

Approximately 70 percent of all adnexal cystic masses detected in the first trimester spontaneously resolve by the early part of the second trimester, which is consistent with the natural history of functional cysts.
Benign neoplasms:

Benign masses with complex features on ultrasound include: corpus luteum, mature teratomas, hydrosalpinx with septation, theca lutein cysts, endometriomas, multilocular cystadenomas, as well as extrauterine pregnancies.

The corpus luteum persists longer during pregnancy and thus is likely to reach a larger size and may become hemorrhagic, rupture, or undergo torsion.
Diagnosis

Definitive diagnosis can only be made by resecting the ovarian neoplasm for pathologic examination.
Diagnostic evaluation

1- Patient selection for surgery

- Asymptomatic masses that are present after the first trimester and are >10 cm in diameter.

- Solid or contain solid and cystic areas or have papillary areas or septae.

Resection of large adnexal masses (benign or malignant) reduces the risk of complications such as adnexal torsion, rupture, or obstruction of labor.
Diagnostic evaluation

1- Patient selection for surgery...

The optimal time for semi-elective surgery during pregnancy is after the first trimester for a number of reasons:

- Almost all functional cysts will have resolved by this time.
- Organogenesis is mostly complete, thus minimizing the risk of drug-induced teratogenesis.
- The hormonal function of the corpus luteum has been replaced by the placenta.
- Spontaneous pregnancy losses due to intrinsic fetal abnormalities are likely to have already occurred and will not be erroneously attributed to the surgery.
Diagnostic evaluation

2- Secondary imaging

In most cases, ultrasound examination provides sufficient information to guide a decision for exploratory surgery versus conservative, expectant management, but occasionally, further radiologic evaluation is required.

MRI has excellent resolution for soft tissue pathology and does not expose the patient (or fetus) to ionizing radiation.
Diagnostic evaluation

2- Secondary imaging...

MRI is particularly useful in characterizing a pedunculated leiomyoma, red degeneration of leiomyomas, endometriomas, decidualized endometriomas, and massive ovarian edema and distinguishing these lesions from ovarian cancer.

Fetal radiation exposure of less than 0.05 Gy has not been associated with an increased risk of abortion, congenital anomalies, growth restriction, or perinatal mortality, there remain concerns regarding a possible increase in the risk of developing childhood cancer.
Diagnostic evaluation

3- Tumor markers in ovarian malignancy

Several of the tumor markers used to follow epithelial and non epithelial ovarian cancers in non pregnant women are difficult to interpret in pregnancy because they are involved in biological functions associated with fetal development, differentiation, and maturation.

CA 125 may be helpful as a tumor marker of EOC between 15 weeks of gestation and delivery, as serum values at this time are unlikely to be markedly elevated solely as a consequence of pregnancy.
Surgery

Based on one meta-analysis and a review of the literature, laparoscopy is an option in the surgical management of adnexal masses in the second trimester. If a malignancy is suspected, a laparotomy should be performed.

Management of corpus luteum

If the corpus luteum is removed prior to eight weeks, progesterone supplementation should be given as a 50 to 100 mg vaginal suppository every 8 to 12 hours or as a daily intramuscular injection of 1 mL (50 mg) progesterone in oil.

After eight weeks, the ovary gradually shifts progesterone production to the placenta (called the luteal-placental shift)
Case report

A 34-year-old pregnant woman G3P2L2 (spontaneous pregnancy)

20cm mass that caused 1260 degrees rotation of adnexa in first trimester of pregnancy
Thank you for your attention