

A CASE OF HUGE BILATERAL OVARIAN TUMOR IN PREGNANCY

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INTRODUCTION-

Adnexal masses during pregnancy are not uncommon. Ovarian cysts or masses during pregnancy should be accurately evaluated to identify the patients who need surgical interventions from those where a 'wait-and-see' strategy can be followed. Ultrasound and MRI are safe diagnostic tools to distinguish between benign and malignant lesions. Treatment options (surgical procedures) should be discussed for each patient individually. Both open surgery and laparoscopy can be performed considering the tumour diameter, gestational age and surgical expertise

CASE

32 years, G2P1L1 at 22 weeks period of gestation with previous one cesarean section came to AIIMS obstetrics OPD with ultrasonography suggestive of ovarian cyst with hypothyroidism and was admitted for further evaluation and management. Ultrasonography –abdomen and pelvis was done with features suggestive of dermoid cyst, with tumor markers marginally raised. Preoperative workup was done and patient underwent laprotomy with bilateral oophorectomy under general anesthesia. Intraoperatively she had bilateral ovarian cyst, both ovaries were not seen separately. Right side 10 x 8 cm, multilobulated, bosselated, cyst with intact capsule and left side 10 x 8 cm, multilobulated, bosselated, predominantly cystic with some solid areas with intact capsule were seen. Intraoperative period was uneventful. Postoperative period was managed with uterine relaxants and antibiotics. Her histopathology report suggested- right ovarian cyst- multiple hemorrhagic corpus luteal cysts, cystic follicle with hemorrhage and left ovarian cyst- consistent with dermoid cyst (tooth, hair, adipose tissue). Rest intranatal period was uneventful and patient underwent elective cesarean section at term.



DIAGNOSIS AND MANAGEMENT-

TUMOR MARKERS-

The reliability of tumour markers in pregnancy is often debated. During pregnancy elevations of tumour markers are mostly associated with the normal physiologic changes of pregnancy and presence of obstetric complications (miscarriage, preeclampsia, HELLP). CA-125 levels may help to distinguish between a benign or malignant lesion and can be used to evaluate treatment. However, decidua- and amnion cells also produce CA-125 resulting in higher CA-125 levels during pregnancy especially in the first and third trimester (respectively because of trophoblast invasion and detachment of the placenta). Tumour markers associated with germ cell tumours (e.g. AFP and b-hCG) and granulosa cell tumours (Inhibin B and AMH) can also be elevated in normal pregnancy and can therefore only be used as follow-up.

IMAGING-

Ultrasonography- most of the adnexal masses discovered as an incidental finding on routine obstetrical ultrasound.

Different algorithms exist to differentiate between benign and malignant tumours or to stratify the risk of malignancy. The IOTA (International Ovarian Tumor Analysis) studies are established to develop rules and models to characterize ovarian pathology and to demonstrate their utility in the hands of examiners with different levels of ultrasound expertise. The 'simple rules' can be used to classify 75% of all ovarian masses. IOTA risk models show high sensitivity and specificity in pre- and postmenopausal women however, there is no evidence of the usefulness in our specific patient population, e.g. pregnant women. Nevertheless, these models are also useful during pregnancy.

MRI- Although MRI can provide valuable diagnostic information beyond the ability of ultrasound, the use of MRI is only advised when ultrasound diagnosis is uncertain, masses are too big to fully assess by ultrasound or when there is a high probability of malignancy to evaluate possible extra-ovarian spread. Pathologic examination only will reveal the true nature of the mass.

IDEAL TIME FOR SURGERY- Although many operations have classically been deferred until after 12 to 14 weeks of gestation to minimize miscarriage risks, this probably is not necessary. Surgery should be performed regardless of gestational age if maternal well-being is imperiled.

PREOPERATIVE MANAGEMENT-

Intra-abdominal procedures may lead to manipulation and displacement of the uterus which often leads to premature contractions.

Antibiotics should be chosen depending on the indications for the planned operation, following the same recommendations as if the patient was not pregnant; however, teratogenic antibiotics should be avoided.

If the clinical situation allows it, respiratory distress syndrome prophylaxis should be considered, depending on the week of gestation.

In addition, the need for Rh prophylaxis should be evaluated.

ANESTHESIA-

No study has identified an influence of anesthesia or given anesthetic agents on the frequency of preterm births. Some of the anesthetic agents, including many of the inhaled agents, are potent inhibitors of uterine contraction.

Although tocolytics like indomethacin suppositories have no influence on anesthesia, beta-mimetic agents can have circulatory effects in the mother and cross-react or even potentiate drugs used during anesthesia.

There are no studies showing an advantage to regional anesthesia over general anesthesia in pregnancy. Supplemental regional anesthesia during general anesthesia can and should be employed in pregnant patients following the well-accepted recommendations for non-pregnant patients.

All of the standard inhalation and intravenous anesthetics as well as supplementation with opioids and muscle relaxants are suitable for pregnant patients. An increased miscarriage rate has not been found for any anesthetic.

CONSERVATIVE MANAGEMENT VS SURGICAL

MANAGEMENT [OPEN VS LAPROSCOPIC SURGERY]-

Because tumors are incidental findings, management considerations include whether resection is necessary and its timing. A cystic benign-appearing mass that is <5 cm often requires no additional antepartum surveillance. Early in pregnancy, this is likely a corpus luteum cyst, which typically resolves by the early second trimester. For cysts ≥10 cm, because of the substantial risk of malignancy, torsion, or labor obstruction, surgical removal is reasonable. Tumors between 5 and 10 cm should be carefully evaluated by sonography along with color Doppler and possibly MR imaging. If they have a simple cystic appearance, these cysts can be managed expectantly with sonographic surveillance. Resection is done if cysts grow, begin to display malignant qualities, or become symptomatic. Those with classic findings of endometrioma or mature cystic teratoma may be resected postpartum or during cesarean for obstetrical indications.

On the other hand, if sonographic characteristics suggest cancer—thick septa, nodules, papillary excrescences, or solid components—immediate resection is indicated.

Laparoscopic removal is ideal. No randomized trials compare laparoscopic with open surgery, however, most reviews report equally satisfactory outcomes. For adnexal mass surgery in pregnancy, laparoscopy is preferred, and several studies confirm its relative safety. At first, 26 to 28 weeks became the upper gestational-age limit recommended, but as experience has accrued, many now describe laparoscopic surgery performed in the third trimester.

POSTOPERATIVE MANAGEMENT- In the post-operative period, the combination of wound pain and administration of analgesic agents makes it difficult to identify premature contractions. The US guidelines recommend tocolytic therapy if premature contractions are identified. Prolonged use of tocolytic agents for more than 48 hours is not recommended for routine clinical practice. Routine postoperative antibiotics and analgesics can be given.

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3. [Ingolf Juhász-Böss](#), PD Dr. med.,¹ [Erich Solomayer](#), Prof. Dr. med.,¹ [Martin Strik](#), Prof. Dr. med.,² and [Christoph Raspé](#), apl. Prof. Dr. med.³ Abdominal Surgery in Pregnancy—an Interdisciplinary Challenge [Dtsch Arztebl Int.](#) 2014 Jul; 111(27-28): 465–472