

## Management : Adnexal mass in pregnant women

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Management of adnexal mass in a pregnant woman presents a challenge as there is concern regarding the maternal as well as foetal outcome. Despite the rarity of malignancy the diagnosis of ovarian mass during pregnancy raises certain important issues like how quickly and efficiently the likelihood of malignancy be determined? Decision of elective operative intervention or postponement as well as the optimal time of surgical intervention!

With the widespread use of routine abdominal ultrasound examination during pregnancy, adnexal masses are observed with increasing frequency and are detected in 1-2% of pregnancies.(1,2,3) The common adnexal masses diagnosed during pregnancy are -Functional Cysts, Benign Neoplasm or malignant ovarian tumours. Functional cysts are clear cysts of < 5 cm size and asymptomatic at presentation but have been documented as large as 10 cm size. Most of these functional cysts detected during early pregnancy disappear during the first 16 weeks of pregnancy and present no risk to the pregnancy. The persistent masses are pathological, majority being of benign nature of which cystadenoma and benign cystic teratoma are common. 7 % of diagnosed adnexal masses during pregnancy are malignant(3) with reported incidence of 1/8000 to 1/20,000 deliveries (4).

Careful evaluation of adnexal masses during pregnancy is required to determine the nature of the mass (5,6). Ultrasonography and coloured doppler with Tumour markers help to differentiate benign from malignant. Interpretation of tumour markers is done with caution in pregnant patients. The CA 125 levels have been reported elevated in pregnancy especially in the first trimester & during delivery(7). Elevated levels of AFP have been observed in pregnan-

cies carrying fetus with Neural tube defects though LDH levels have not been affected by pregnancy.

The need for surgical intervention is considered in the following conditions when :

- Malignancy is suspected.
- An acute complication develops because of torsion, rupture or haemorrhage.
- The sheer size of the tumour is likely to cause rupture or obstructed labour.

Surgery of adnexal mass during pregnancy increases the risk of abortion and preterm deliveries and IUGR. Some recent data suggest that adnexal surgery during the late second or early third trimester poses the greatest risk of preterm delivery or IUGR, or both (8). The time window of early to mid second trimester of pregnancy has been associated with a lower risk of pregnancy complications with elective surgery for an adnexal mass.

Frequently observed ovarian malignancies in association with pregnancy are Epithelial Ovarian cancer in 35 % which are commonly low malignant potential tumours. Germ cell tumours in 33% , dysgerminoma being the commonest in 30 % , Gonadal Stromal tumours in 20%.(9)

Most of ovarian malignancies diagnosed during pregnancy are stage I thus have favourable prognosis (10). Surgical management is similar to that in nonpregnant patient. In these patients intraoperative frozen section analysis is essential for appropriate intraoperative decisions. In patients presenting as stage I, the unilateral salpingo oophorectomy with appropriate staging is the recommended procedure. The extent of the surgery in advanced stage of the disease will depend on the gestational age and foetal viability. The limited data on laparoscopy during the first and early second trimesters of pregnancy indicate that it is as safe as laparotomy

(11).

Pregnant and nonpregnant women with stage 1A or 1C epithelial ovarian cancer who undergo fertility-preserving surgery (with chemotherapy in selected patients) have a good prognosis and a high likelihood of achieving a subsequent normal pregnancy(12) The same is true for women with a malignant germ-cell tumour of the ovary, even when disease is advanced(13) .The indications of chemotherapy are similar to that in non-pregnant patients. All patients of germ cell tumour other than dysgerminoma stage IA and Immature teratoma stage IA Grade I should receive chemotherapy. Successful outcome of both mother and the infant have been reported in several published case reports when chemotherapy of Bleomycin, Etoposide and Cisplatinum or vinblastin, cisplatin and Bleomycin (14)were received by the mother in second or third trimester of pregnancy. There have also been several case reports documenting safe administration of cyclophosphamide, Cisplatinum or carboplatinum and carboplatinum and paclitaxel in second and third trimester of pregnancy for epithelial ovarian cancer (15,16).

Clearly, an informed discussion of the options with the patient is imperative before any surgery, or chemotherapy is planned and any treatment delay should be carefully considered. Pregnancy does not appear to alter the prognosis for the patient with an ovarian malignancy, and ovarian cancer has not been reported to metastasize to the fetus.

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