

## OVARIAN TUMOURS COMPLICATING PREGNANCY

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### SUMMARY

Case records of patients with ovarian tumour complicating pregnancy over a period of 10 years are reviewed. Total 29 cases were diagnosed with an incidence of 1:1261 deliveries. 79.2% cases were diagnosed in first and second trimesters. 27.4% patients were asymptomatic. 65.9% were diagnosed on clinical examination whereas 5 were incidentally detected. Torsion was the commonest complication. Abortion was the only pregnancy complication seen in 13.7% patients. Unilateral salpingo-ovariectomy was the commonest surgical procedure. Mucinous cystadenoma was the commonest tumour. Routine pelvic examination and USG in first and second trimester is most useful to diagnose this rare condition. Elective laparotomy in second trimester is likely to give best pregnancy outcome.

### INTRODUCTION

Ovarian tumours complicating pregnancy are perplexing problems for the obstetrician. The presence of cystic ovarian mass may either simply be an exaggerated physiological reaction or it may be a serious life-threatening problem like ovarian malignancy. The association of ovarian tumour and pregnancy is rare, incidence varying from 1:2334 in various studies (et Yahia et al, 1991; Tchabo et al, 1987).

Determinants of the nature of tumour, when to perform laparotomy and whether to give tocolytics are difficult decisions to make. There is concern for the life of both mother and foetus. An obstetrician sees only a few cases during his/her career. Therefore, it was felt necessary especially to review cases in our institution and analyse it in the light of others, experience to arrive at a workable solution.

### MATERIALS AND METHODS

The present study was carried out in the Department of Obstetrics and

Gynaecology of JIPMER (Jawaharlal Institute of Post-graduate Medical Education and Research), Pondicherry, India, over a period of 10 years from August 1984 to July 1994. All the records with a code of International Classification of nomenclature indicative of ovarian neoplasm during pregnancy were identified and reviewed. The information was entered in a predesigned proforma and results analysed.

### RESULTS

Over the study period, a total of 29 cases of ovarian tumour complicating pregnancy were diagnosed. There were 36,569 deliveries over this period, the incidence coming to 1:1261 deliveries.

As expected, maximum, i.e. 20 patients (68.9%) were in the age group of 20-30 years followed by 5 (17.2%) in 31-40 years and 4 (13.7%) in less than 20 years age group.

Twelve (41.3%) patients were diagnosed in the second trimester, 11 (37.9%) in the first trimester and 5 (20.8%) in the third trimester. One case was diagnosed in puerperium.

Of the 20 patients, 8 (27.6%) were asymptomatic and were diagnosed either by clinical examination or were incidentally detected. Vague abdominal pain was the commonest symptom seen in 13 (44.8%) patients followed by nausea and vomiting in 9 (31%). Four patients (13.7%) com-

**Table I**  
**Management of ovarian tumours in pregnancy**

Treatment	No.	%
Elective laparotomy during pregnancy	12	46.0
Conservative management in first trimester and surgery in second trimester	1	
MTP with laparotomy	5	
Diagnosed and operated in second trimester	6	
Emergency laparotomy during pregnancy	5	19.2
Torsion	4	
Suppuration	1	
LSCS with removal of tumour	4	15.3
Elective laparotomy after delivery	3	11.5
Conservative management with USG follow up	2	7.7

**Table II**  
**Pregnancy outcome**

Outcome	No.	%
MTP with laparotomy	5	19.2
Spontaneous abortion within 2 weeks of laparotomy	2	7.7
Pregnancy continued beyond 2 weeks	15	51.7
LSCS	4	
Term vaginal deliveries	8	
- Spontaneous vaginal delivery	6	
- Operative vaginal delivery	2	
Preterm vaginal delivery	3	
LSCS with removal of tumour	4	21.3
Lost to follow up	3	11.5

plained of overdistension of abdomen and 1 had urinary symptoms like dysuria and frequency.

Nineteen (65.9%) patients were diagnosed clinically whereas 5 (17.2%) were detected by ultrasonography. Five cases (17.2%) were incidentally detected at the time of some other surgery like LSCS or tubectomy.

Torsion was the commonest complication seen in 4 cases (13.7%). One patient had infection of the cyst which ruptured in the abdominal cavity causing peritonitis. In 1 patient the tumour obstructed the labour requiring LSCS.

Table I shows the management of these cases. Twelve patients (46%) underwent elective laparotomy during pregnancy and 2 in puerperium. Five patients required emergency laparotomy during pregnancy.

At laparotomy, 21 tumours were unilateral, out of which 18 were cystic, 1 was solid and 2 were of variable consistency. Four cystic tumours had undergone torsion. Of the 3 pairs of bilateral tumours, 4 tumours were cystic and 2 solid. There was no ascites or peritoneal deposits in any of the cases.

Sixteen tumours were removed by salpingo-oophorectomy, 4 by ovariectomy, 5 by cystectomy and 2 by TAH with BSO. One patient who underwent TAH with BSO was 28 years, para 3 who wanted MTP with sterilization and on laparotomy found to have bilateral solid ovarian tumours without any identifiable normal ovarian tissue (HP - both dermoids). Eight patients had concurrent sterilization.

The pregnancy outcome is depicted in Table II. In 15 (51.7%) patients pregnancy

continued after laparotomy whereas 2 patients aborted within 2 weeks of laparotomy. Out of 5 cases who had LSCS at term, 2 had elective LSCS for CPD, 1 for transverse lie, 1 for PROM with failed induction and only one LSCS was done for dystocia caused by tumour.

Mucinous cystadenoma was the commonest tumour seen in 7 (30.5%) patients followed by serous cystadenoma in 6 (25%), benign cystic teratoma in 5 (20.8%), corpus luteum cyst in 3 (12.4%) and struma ovarii in 1 (4.08%). 2 cases tissue was not identifiable due to infarction and necrosis.

### DISCUSSION

Pregnancy with ovarian tumours is fortunately a rare condition. The incidence in our study was 1:1261 deliveries. Ballard (1984) has quoted an incidence of 1:2328 deliveries, el Yahia et al (1991) found it to be 1:653 deliveries and Tchabo et al (1987) as 1:2334 deliveries.

The diagnosis of ovarian tumour with pregnancy becomes more difficult with increasing gestational age. In our study, 79.2% cases were diagnosed in first and second trimesters. In the study of el Yahia et al (1991), 62.7% cases were diagnosed in first and second trimesters. As also suggested by them the value of routine pelvic examination and USG in first trimester should be stressed. Incidental finding of 3 tumours at the time of LSCS emphasises the importance of examining the adnexa at the time of LSCS.

Many of the cases of pregnancy with ovarian tumour are asymptomatic or may have symptoms that can be attributed to pregnancy itself. In our study, 27.4% patients were asymptomatic. In the study by Hess

et al (1988), 65% patients were asymptomatic at the time of diagnosis. Abdominal pain, vomiting and overdistension were the symptoms which patients commonly complained of.

The commonest complication of benign ovarian tumour during pregnancy is torsion which is seen most commonly in the first trimester (Ballard, 1984). Rupture, infection, dystocia are other reported complications. The most serious complication of a co-existent ovarian tumour with pregnancy is malignancy. The incidence varying from 2.2% to 5.3% is reported (Tchabo et al, 1987; Ballard, 1984; Ashkenazy et al, 1988). We did not have any malignant ovarian tumour occurring with pregnancy. Table III shows the complications of ovarian tumours with pregnancy as compared to various studies.

Early in pregnancy, an ovary may be enlarged, creating a suspicion of neoplasm. Ovaries less than 6 cm may be the consequence of corpus luteum cyst formation. Hess and colleagues (1988) recommend elective resection of any ovarian mass 6 cm or more if it persists beyond 16 weeks. Thornton and Wells (1987) opined that with advent of high resolution USG, cysts between 5-10 cms could be managed conservatively if they have simple cystic appearance on USG. Cysts containing septae, nodules, solid areas should be resected. In view of high incidence of abortion during early pregnancy, the safest time to perform a laparotomy is second trimester (Hess et al, 1988; Struyk and Treffers, 1986). In our study, all tumours showing complications like torsion, infection etc. were removed immediately after confirming the diagnosis. This is well

**Table III**  
**Complication of ovarian tumour in pregnancy**  
**(Different studies)**

Authors	Year	Torsion %	Infection %	Dystocia %	Malignancy %
Ballard (1984)	1984	-	-	-	2.2
Struyk & Treffers(1986)	1986	12.0	4.0	17.0	-
Tchabo et al (1987)	1987	-	-	-	4.5
Ashkenzy et al (1988)	1988	-	-	-	5.3
Hess et al (1988)	1988	11.0	14.5	4.5	-
Present Study	1994	13.7	3.5	3.5	-

accepted as it is an emergency. Uncomplicated tumours diagnosed in first trimester were managed conservatively and operated at 16 weeks. All tumours diagnosed in second trimester were operated electively. Uncomplicated tumours diagnosed in third trimester and not suspected to cause dystocia were managed conservatively and operated electively during puerperium. In those patients who required LSCS for any reason tumours were removed at the time of LSCS. All tumours more than 10 cm were removed. Three patients with simple unilocular 8, 6 and 7 cm cyst on USG were managed conservatively with USG follow up. Two of these cysts disappeared and one 7 cm cyst persisted which was removed at the time of puerperal sterilization (HP - simple serous cyst).

The only pregnancy complication seen in our study was abortion. Hess et al (1988) concluded that abortion rate was more in cases which required emergency laparotomy. In our study, 1 out of 5 (20%) patients who had emergency laparotomy

had abortion whereas out of 12 patients who underwent elective laparotomy only one aborted (8.3%). Ashkenazy et al (1988) reported incidence of abortion in unsupported group to be 85% as against 10% in supported group. In our study, all cases received supportive tocolytic therapy and abortion rate was 13.7%.

Commonest tumour seen in our study was mucinous cystadenoma. Same finding was reported by Tchabo et al (1987). Benign cystic teratoma was recorded as commonest tumour by Ballard (1984) and Hess et al (1988) which was third commonest in our study. We had one interesting case of struma ovarii. Similar case was reported by Tchabo et al (1987).

In conclusion, from our own experience and from the available literature, ovarian tumour complicating pregnancy is rare. A per vaginal examination and USG in first trimester will go long way in clinching the diagnosis. Elective laparotomy should be done in second or early third trimester with careful follow up with ultrasonography.

**ACKNOWLEDGEMENT**

We thank the authorities of JIPMER for permitting us to use hospital records.

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