



ISSN 2278 – 0211 (Online)

## Clinical Study of Ovarian Tumors in Pregnancy: Observation vs. Surgery

**Bharathi Rao**

Associate Professor, Department of OBG

Lady Goschen Hospital, Kasturba Medical College, Manipal University, Mangalore, India

**K. Silpa Sindhoora**

Junior Resident, Department of OBG

Lady Goschen Hospital, Kasturba Medical College, Manipal University, Mangalore, India

**Shameem V. P. A.**

Associate Professor, Department of OBG

Lady Goschen Hospital, Kasturba Medical College, Manipal University, Mangalore, India

**S. R. Nayak**

Professor, Department of OBG

Lady Goschen Hospital, Kasturba Medical College, Manipal University, Mangalore, India

**Arun Rao**

HOD & Professor, Department of OBG

Lady Goschen Hospital, Kasturba Medical College, Manipal University, Mangalore, India

### **Abstract:**

*Aim: To estimate the demographical factors and to evaluate the management options i.e. conservative vs surgery in antenatal period.*

*Methods: The retrospective study was done in Lady Goschen Hospital, Kasturba Medical College, Mangalore. Data retrieved from records section from 1 January 2005 to 31 December 2010, included age, parity, period of gestation at diagnosis, presenting complaints, ultrasound examination, management, pregnancy outcome and histopathological report. Data analysed by chi square test and student's 't' test.*

*Results: During the 5 yr study period, an adnexal mass of more than 5 cms was diagnosed in 30 patients, surgery was done in 33% patients antenatally. In 20% patient's intervention was done during LSCS. 40% of them had surgery during postnatal period. Majority of them were dermoid cysts. Two cases were malignant ovarian tumor, diagnosed after histopathological study. One underwent staging laparotomy and was in stage IA. Other patient lost follow up.*

*Conclusion: Functional cysts less than 5 cms resolve spontaneously by 6-8 wks. Expectant management is a reasonable option in asymptomatic, non-suspicious cystic ovarian tumor during pregnancy. Surgery is indicated only in large, symptomatic and highly suspicious tumors.*

### **1. Introduction**

An increased incidence of detection of adnexal masses during pregnancy has occurred due to routine use of perinatal ultrasound. Around 1-4% of pregnant women are diagnosed with adnexal mass (1,2,3) of which most of the masses resolve by 16 wks of gestation. Only Some adnexal masses persist and 1-8% of them represent malignant tumors (1,2,3,5).

Management of the asymptomatic adnexal masses that persist during pregnancy remains controversial. Over years, ovarian tumors in pregnancy were managed by elective operations, done preferably in the second trimester to reduce the risk of complications such as torsion and rupture, but there was increased incidence of miscarriages and preterm labor due to surgical procedures. Advances in ultrasonography has raised the question that, whether surgical intervention is warranted in pregnant women with ovarian tumor (3,6). Observation has therefore been proposed for selected patients with an ovarian mass during pregnancy. Aim of our study was to assess the demographic factors and to compare the outcome in surgery during antenatal period with expectant management in ovarian tumors complicating pregnancy.

## 2. Subjects and Methods

The retrospective study was done in Lady Goschen Hospital; Kasturba Medical college, Mangalore. Data retrieved from record section from 1<sup>st</sup> January 2005 to 31<sup>st</sup> December 2010. included age, parity, period of gestation at diagnosis, presenting complaints, pregnancy outcome and histopathological report.

Ovarian cyst > 5cms detected during antenatal scan were included in the study. They were grouped into antenatal surgery group and observational group. Antenatal group had intervention during antenatal period; observational group had intervention during caesarean or postnatally. Data analysed by chi square test and student 't' test.

## 3. Results

Out of 33,211 deliveries, 30 ovarian tumors were detected over 5 years. Twelve (40%) had surgery during antenatal period, 5 had surgery during LSCS and 12(40%) had surgery in postpartum period. In one patient, cyst had undergone spontaneous resolution.

## 4. Demographic Characteristics

Age group	N	Mean	Std. deviation
Antenatal surgery	12	27.416	5.142
Observational	18	25.111	3.968

Table 1: Age distribution ( $p = 0.177$ )

parity	Group		Total
	Antenatal surgery	observational	
Primigravida	6 (50%)	9 (50%)	15 (50%)
Multigravida	6 (50%)	9 (50%)	15 (50%)
Total	12 (100%)	18 (100%)	30 (100%)

Table 2: Parity

	Group		Total
	Antenatal surgery	observational	
Tumor regressed	0	1 (5.6%)	1 (3.3%)
Dermoid	6 (49%)	7 (38.9%)	13 (43.3%)
Mucinous cyst	2 (16.7%)	4 (22.2%)	6 (20%)
Mucinous cystadenoma Ca	1 (8.3%)	0 (0%)	1 (3.3%)
Papillary cystadenoma	0 (0%)	2 (11.1%)	2 (6.7%)
Papillary serous cystadeno Carcinoma	0 (0%)	2 (11.1%)	2 (6.7%)
Serous cyst	3 (25%)	1 (5.6%)	4 (13.3%)
Struma ovarii	0 (0%)	1 (5.6%)	1 (3.3%)
Total	12 (100%)	18 (100%)	30 (100%)

Table 3: Histopathological classification ( $p = 0.003$ )

	Group		Total
	Antenatal surgery	Observational	
FTND	9 (75%)	13 (72.2%)	22 (73.3%)
Hysterectomy	1 (8.3%)	0 (0%)	1 (3.3%)
LSCS	0 (0%)	3 (16.7%)	3 (10%)
LSCS full term	0 (0%)	2 (11.1%)	2 (6.7%)
MTP sterilization	1 (8.3%)	0 (0%)	1 (3.3%)
Preterm delivery	1 (8.3%)	0 (0%)	1 (3.3%)
Total	12 (100%)	18 (100%)	30 (100%)

Table 4: Outcome ( $p = 0.165$ )

Statistical significance was not found in age or parity between patients undergoing antenatal surgery and observation

In antenatal surgery group 4 (%) were operated in 1<sup>st</sup> trimester and 8(%) in second trimester. Eight patients had surgery due to acute abdomen, in which 2 had torsion. Two had huge cyst and 2 had intervention during MTP with sterilization. In observation group, cyst had resolved in 2<sup>nd</sup> trimester in one lady, 4 had cystectomy at LSCS, 1 lady had ovarian biopsy during LSCS, 12 had cystectomy during postnatal period.

One lady had preterm delivery at 33 wks in antenatal surgery group. It was twin gestation. Ten patients had vaginal delivery, 2 had MTP in antenatal surgery group.

Twelve had vaginal delivery and 5 had caesarean section in conservative group. No neonatal mortality in both the groups.

### 5. Size of Ovarian Tumor

No significant difference in size among both the groups. Most of them had cyst of 5 – 10cms in size. Two had huge cyst measuring 30 cms in antenatal surgery group.

### 6. Histologic Diagnosis

Dermoid cyst was the most common tumor in either group. One case of struma ovary was seen in conservative group, overall incidence of malignancy being 6.6%. One case of mucinous cystadenocarcinoma was diagnosed following MTP with sterilization and cystectomy. Staging laparotomy was done and was in stage 1A. Other lady had serous cystadenocarcinoma diagnosed following ovarian biopsy during LSCS, lost follow up.

### 7. Discussion

The incidence of ovarian tumor in pregnancy range from 1 in 100 to 1 in 2000 pregnancies. The majority of these masses will resolve without intervention as most of them are functional ovarian cysts. Simple cyst < 6cms have a clinically insignificant risk of malignancy less than 5% (5). In our study we reviewed only the cases where the mass was 5 cms or greater.

Study	No of cases	Antepartum surgery	Malignancy rate	complication
Platek et al (1988-1995) (n=30)	31	59%	-	1 abortion
Lee et al (1990-2001)	89	All	5.4%	25.9%
Schmeler (1990-2003)	59	29%	6.8%	-
Present study (2005-2010)	30	12 (40%)	2(6.6%)	1 preterm labor

Table 5: comparison of our findings with the previous study using similar parameter

Forty percent of women in our study underwent surgery during antenatal period. In a study from Platek et al and Schmeler et al, 59% and 29% had surgery antenatally respectively. Our study had one preterm delivery at 33 wks in antenatal surgery group. This complication may not be due to surgery as twin itself is a risk factor for preterm delivery. Various studies have shown increased risk of abortions, premature rupture of membrane and preterm delivery due to abdominal surgeries during antenatal period (2,3). Because pregnant women are young, malignant tumors are relatively uncommon. Various studies have shown the incidence upto 5% (5).

Present study had malignancy incidence of 6.6%. Both the patients had not had ultrasound during pregnancy. Cyst was diagnosed during MTP sterilization in one and during LSCS in another.

Schmeler et al and lee et al had malignancy incidence of 6.8% and 5.4% respectively. No neonatal mortality found in both the groups. Ovarian torsion is potential complication of expectant management of large adnexal masses during pregnancy. Two patients in our study underwent surgery for ovarian torsion (2,6). Most pregnant women with adnexal tumors are asymptomatic, may be diagnosed during LSCS (7). In our study, 3 had intervention during LSCS, one had malignancy detected only after surgery. Our study has several limitations. It was a retrospective study. The sample size is small. The choice of operative intervention versus observation was not uniform.

### 8. Conclusion

Expectant management in asymptomatic, nonsuspicious cystic ovarian tumor detected during pregnancy is a reasonable option. Surgery in antenatal period is indicated in large, symptomatic and highly suspicious tumor. Surgery is done in expectant group during caesarean or postnatal period.

### 9. References

1. Lyndon M. Hill, MD, DJ Connors. Beatty, MA, Anita Nowak, RDMS, and Brenta Tusti, RDMS. American J. Obstetric Gynaecology 1998. 179: 703 – 7.
2. MAJ Paul Whitecar, MC, USA, Shannon Turner, MD, and MAJ Kenneth Higby, MC, USA. Adrenal masses in pregnancy : A review of 130 cases undergoing surgical management. American J. of Obstetric Gynaecology 1999; 181; 19-24.
3. Kathleen M. Schmler et al : Adrenal masses in pregnancy: surgery compared with observation Obstet. Gynecol 2005; 105:1098-1103.
4. G. S. R. Lee, et al. S.Y. Hur, J.C. Shin: Elective vs. conservative management of ovarian tumors in pregnancy. International Journal of Gynecology and Obstetrics. 2004; 85: 250 – 254.
5. Robert L. Gluntoli, 2, MD, Russels. Vang, MD, and Robert E. Bristow, MD: Evaluation and management of adnexal masses during pregnancy, Clinical Obstetrics and Gynecology. 2006, 49: 492 – 505.

6. Gordon B, Sherard 3, MD, Charles A., Hodson, PhD, H. James Williams, MD, Diane A. Semer, MD, American J. Obstet. Gynecol 2003; 189; 358 – 63.
7. Kazim Gezgyinc et al. ovarian cancer during pregnancy: international journal of Gynecology and Obstetrics 2011; 115:140-143.