



**ORIGINAL RESEARCH PAPER**

**Gynaecology**

**MANAGEMENT OF BENIGN OVARIAN CYSTS – A RETROSPECTIVE STUDY**

**KEY WORDS:** Benign ovarian cysts, laparoscopy-laparotomy, cystectomy.

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**ABSTRACT**  
**Objective:** To study the retrospective analysis of surgical management of benign ovarian cysts by laparoscopic/laparotomy.  
**Material s & Methods:** The study was carried out from June 2015 to October 2016 in the department of Obstetrics and Gynaecology, NRI Medical College & General Hospital, Chinakakani, Guntur District. The patients with clinical symptoms and after clinical examination were subjected transvaginal sonography and calculated the RMI index.  
**Results:** Total number of cases studied were 71. Out of 71 cases 69 were benign and two were malignant which were confirmed by histopathology. Most women were at the age group of 28-35yrs and parous.  
**Conclusion:** Benign ovarian cysts were more common than malignant. Among benign ovarian cysts serous cysts are the most common followed by functional cysts. Benign ovarian cysts are better treated laparoscopically.

**INTRODUCTION:**

Ovarian neoplasm is the second most common neoplasm next to cervical cancer in genital tract in developing countries. As the symptoms are vague to start with and manifest very lately, ovarian tumors are difficult to be detected until advanced stage<sup>1</sup>, by that time the prognosis will be very poor and difficult to treat. The overall malignancy is 1:1000 ovarian tumours around perimenopausal age and 3:1000 at the age of 50 (menopause). The incidence of benign ovarian cysts in pregnancy 1:600<sup>2</sup>. Determination of histological pattern, CA125 are very important for diagnosis, prognosis, and treatment of ovarian tumors.

- Parity
- Presenting symptoms
- Size of mass
- RMI
- Mode of Management
- Hystopathological evaluation
- Post-operative recovery

**AIMS & OBJECTIVES:**

To study incidence, clinical features, RMI, modes of management of benign ovarian cysts.

**METHODOLOGY:**

Retrospective study was done during the period June 2015 to October 2016 in Department of Obstetrics and Gynaecology, NRI Medical College & General Hospital, Chinakakani, Guntur District. Total number cases studied were 71.

**Inclusion Criteria:**

Ovarian cysts diagnosed by clinical examination / transvaginal USG.

**Excluding Criteria:**

Para ovarian masses, Other Pelvic masses

**RESULTS:**

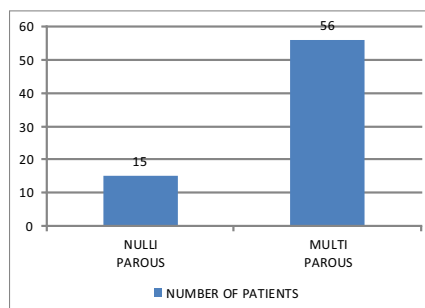
**Analysis of the cases:**

- Age

**TABLE 1: Age Distribution**

Age in Years	Number of Patients	Percentage (%)
<20	6	8.4
20-35	30	42.2
35-50	26	36.6
>50	9	12.6
TOTAL	71	100

- **Highest age with benign ovarian cysts 62yrs.**
- **Smallest age for malignancy 53 yrs.**



**FIGURE 1: Parity**

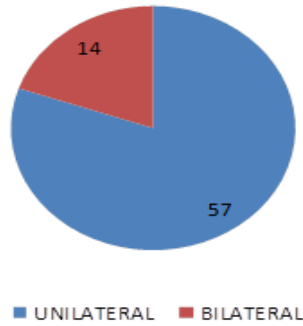


FIGURE 2: Laterality

TABLE 2: Presenting Features

Symptom	Number of Patients	Percentage (%)
Pain abdomen	52	73
Abdominal distension	9	12.6
Menstrual irregularities	9	12.6
Incidentally	4	5.6

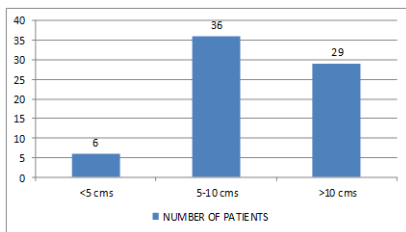


FIGURE 3: Size of Ovarian Mass

TABLE 3: RMI Score

RMI= CA 125 X U X M

Ultrasound Criteria (U)	U Score
Multilocular cyst	1
Solid areas	1
Bilateral lesions	1
Ascites	1
Intraabdominal metastasis	1
Score	U
0-1	1
2-5	4
Menopausal status	M score
Premenopausal	1
Postmenopausal	4

TABLE 4: Based on RMI

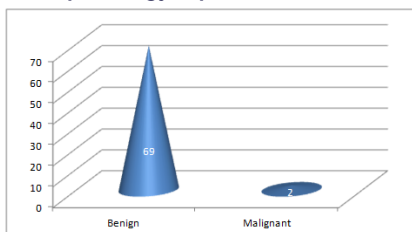
RMI	Number of patients	Percentage (%)
<200	66	92.9
>200	5	7

TABLE 5: Intra Operative Findings

Associated with	Number of patients
Torsion	13
Adhesions	20
Fibroid	3
Ascites	2

One laparoscopic ovarian cystectomy had to be converted to laparotomy due to dense adhesions in a post hysterectomy case.

FIGURE 4: Histopathology Reports



**PRESENTING FEATURES:**

Most common complaint was pain abdomen in 52 cases (72%). Diagnosis / Evaluation / Risk assessment was done by blood test = CA 125, Lactic dehydrogenase (LDH), Alpha feroprotein and human chorionic gonadotrophin (hCG), Pelvic ultrasound (transvaginal / transabdominal), CT / MRI (not routinely). Estimating risk of malignancy ovarian masses (use of risk of malignancy index RMI), we have taken up RMI-2. RMI= ca 125 x u xm, based on RMI-2 the management was done.

**MODES OF MANAGEMENT:**

In 66 cases with RMI <200

- 23 cases had laparoscopic ovarian cystectomy(34.8%)
- 43 cases had laparotomy and ovarian cystectomy(65%).

In 5 cases with RMI >200'

- 1 case had laparotomy and ovarian cystectomy(20%)
- 4 cases had staging laparotomy(80%).

Laparoscopic or transvaginal aspiration of ovarian cysts was done in very elderly women in highly selected cases. Out of 71 cases 11 cases were treated as emergency (15.4%). In 66 cases with RMI <200, 23 cases had laparoscopic cystectomy (34.8%).

Laparotomy followed by ovarian cystectomy was done in 43 cases (65%). In 5 cases with RMI >200 1 case had laparotomy - ovarian cystectomy 14 (20%) and the remaining 4 cases had staging laparotomy (18%).

In 5 cases with RMI > 200 laparotomy and ovarian cystectomy (20%) was done and staging laparotomy was done in 4 cases (80%). Laparoscopic ovarian cystectomy was done for small size of the ovarian cysts <10-12 cm size, RMI < 200, CA 125 <35, stable patients. Out of 11 cases treated in emergency 6 cases were torsion ovarian cysts (54.5%). Intraoperative adhesions were noticed in 20 (28%) of the patients and torsion was observed in 13(18%) of the cases. Postoperative recovery was very good among laparoscopy and was better than laparotomy.

**POST OPERATIVE PERIOD:**

Most cases of laparoscopic ovarian cystectomy had less postoperative pain and discharged on third postoperative day. Out of 23 cases of laparoscopic ovarian cystectomy only one case was subjected to **relaparotomy** in view of **bowel injury**. Most laparotomy cases were discharged between 6<sup>th</sup> to 10<sup>th</sup> postoperative day.

**HISTOPATHOLOGY REPORTS:**

Benign pathology was reported for 69 cases (97%) and in only two cases of malignancy was reported. Out of 69 cases, 22 were serous cyst (30%) and 20 were functional cysts (28%). Out of 5 cases with RMI > 200 only one was found to be malignant. There were 11 cases treated in emergency of which 6 cases were torsion ovarian cysts (54.5%).

TABLE 6: Histopathology Reports

Biopsy	Number of Patients	Percentage(%)
Serous	22	37
Mucinous	5	7
Dermoid	12	16.7
Granulosa cell tumour	2	2.8
Endometriomas	6	8.5
Corpus luteal cyst	12	17
Simple follicular cyst	8	11
Mixed	1	1.4
Fibroid	1	1.4
Serous cystadeno carcinoma of ovary	2	1.4
Torsion (as complication)	13	18.3

- 69 cases were benign (97%) out of which 22 were serous cysts(30%) followed by 20 were functional cysts(28%).
- Out of 5 cases with RMI >200, only 1 was found to be malignant.

- Out of 66 cases with RMI <200, only 1 was found to be malignant.
- 11 cases were treated in emergency, of which 6 were torsion ovarian cyst (54.5%).

#### DISCUSSION:

Benign ovarian cysts are common among adolescent, reproductive age group, peri menopausal and menopausal women. Most of them are asymptomatic and diagnosed by ultrasonography<sup>2</sup>. The common symptoms of benign ovarian cysts are pain, mass per abdomen, infertility. Small size ovarian cysts <5cm usually disappear spontaneously within three months time. These benign cysts are commonly diagnosed by clinical examination, routine ultrasonography. The symptom of the pain is due to torsion, infarction, haemorrhage. The most common benign cysts are serous cyst adenoma, mucinous cyst adenoma, dermoids (Malay) and endometriomas (Ireland & China<sup>3,4</sup>).

In our study serous cyst adenoma was found to be the commonest - 22 (30.7%). Next common were functional cysts, endometriomas.

#### MANAGEMENT:

The benign cysts are best treated by observation, aspiration, cystectomy, ovariectomy and salpingo oophorectomy either by laparotomy or laparoscopy.

In our study most of the benign cysts were unilateral 69 (97.2%).

Abdominal pain was the commonest presenting complaint 52 (73%) followed by abdominal mass / distension 9 (12.67%) (is comparable with **Rashadet al<sup>1</sup>**) and 66 (93%) of cysts had RMI <200. Out of those 66 cases with RMI < 200 cystectomy was done by laparoscopically 23 (34.8%) cases and laparotomy was performed, ovarian cystectomy was done for 43 (65%) of the cases.

There were 22 (30.7%) serous tumors and 5 (7%) mucinous tumors, mature cystic teratoma (dermoid of ovary 17%). Similar results were reported by **Prabhakar et al** in which serous tumors were the commonest followed by mucinous tumors<sup>5</sup>.

In our study among benign cysts, mucinous cysts - left sided, though they were benign found adhesions with surrounding viscera more common to sigmoid colon.

The benign large ovarian cyst, obesity, abdominal laxity, extreme thinness, more than one cyst cases - laparotomy is preferred to laparoscopy. We have treated a big ovarian cyst 36 weeks size with CA 125 in normal range by laparoscopy in young patient and the cyst wall was removed by mini laparotomy. In such cases, initially the cyst fluid can be aspirated by ultrasonography (USG). Then laparoscopy can be attempted<sup>6</sup>.

There are advantages of laparoscopy over laparotomy, less operative time, fast recovery, less adhesions, less chance of infection, less pain and less hospital stay<sup>7</sup>. Rarely, laparoscopy is dangerous due to complications among obesity patients, post op adhesions, umbilical hernias and may result in vascular injuries, thermal burns. In case of previous abdominal surgeries, if laparoscopy is attempted, Palmer point insertion as main port is advised to avoid complications. Dermoid cysts more than 10 cm are better to be removed by laparotomy to avoid spill of dermoid contents which may cause chemical peritonitis postoperatively. Small dermoids can be removed laparoscopically with or without using endobag. In such cases, we have done peritoneal lavage with 2 to 3 liters of normal saline, to prevent chemical peritonitis, infection<sup>8,9</sup>.

#### CONCLUSION:

Benign ovarian cysts are more common than malignant variety and are better treated by laparoscopically as they have less postoperative pain and early recovery. It should be done in selected cases by experienced laparoscopic surgeon to avoid complications. Asymptomatic ovarian cysts can be followed with ultrasound 6 weeks - 3 months and surgical intervention whenever necessary. Routine

use of combined oral contraceptives are not recommended at the time of follow up.

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