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## Full Length Research Article

### OVERVIEW OF PELVIC MASSES FOLLOWING HYSTERECTOMY FOR BENIGN DISEASES

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#### ABSTRACT

**Objective:** To study the clinical and histopathological presentation and management of pelvic masses following hysterectomy for benign diseases.

**Method:** Retrospective analysis of 60 cases from January 2012 to December-2014.

**Results:** The age of patients ranged from 30-75yrs in a total of 60 cases, 53.3% are neoplastic. Among the neoplasms 75% are benign, 21.8% are malignant. Among non-neoplastic masses, the commonest are paraovarian cyst –42.8% followed by hydrosalpinx. Serous cystadenoma was the commonest benign tumor (38%) followed by mucinous (35.4%). Most common malignant ovarian tumor was serous cystadenocarcinoma (71.4%).

According to Sonographic appearance 35% patients had simple unilocular cyst, 53.3% had complex cyst and 11.7% presented with solid mass. 10% patients were treated by laparoscopic method and 90% patients were treated by laparotomy.

**Conclusion:** Emergence of pelvic masses after hysterectomy needs proper, meticulous clinical and diagnostic evaluation and appropriate management. Neoplastic pelvic masses have similar incidence as non neoplasms. A rise in incidence of mucinous cystadenoma was observed. Mean age of malignant tumors has decreased.

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#### INTRODUCTION

Hysterectomy is a common gynecological surgery. Apart from genital tract malignancies various benign diseases may necessitate hysterectomy such as DUB, Fibroids, endometriosis, adenomyosis, prolapse, ovarian tumors. Pelvic masses after hysterectomy can arise from conserved ovaries, ovarian remnants, fallopian tubes, broad ligament, retroperitoneal space, bladder and bowel. Ultrasonography has proved a remarkable diagnostic tool which not only helps to determine origin but also suggest features which distinguish between benign and malignant masses. The purpose of this study is to share our experience on the nature of pelvic masses which appear after hysterectomy for benign diseases along with its management.

#### MATERIALS AND METHODS

This is a retrospective analysis of 60 patients with pelvic masses from Jan'2012 to Dec 2014 in the department of

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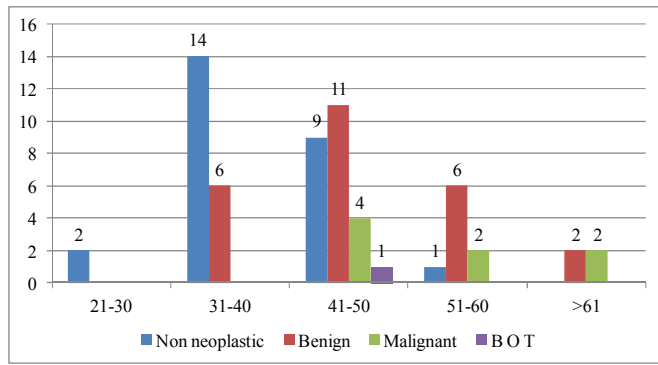
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obstetric and gynaecology at NRI General Hospital, Chinakakani, Guntur. Patients with pelvic masses following hysterectomy at least 1 year ago, who were surgically managed were included in the study. Patients with pelvic masses who were conservatively managed were excluded. Details regarding the patient such as age, parity, presenting symptoms and surgery details were noted. Apart from ultrasound, screening tests like CA-125 in case of complex and solid masses were carried out. Histopathological examinations of excised specimens were conducted by pathology department of our hospital.

#### RESULTS

Out of 1732 admissions in the gynecology ward, incidence of pelvic masses following hysterectomy was 60 (3.4%), that of non neoplastic pelvic masses was 28 (46.7%) and that of neoplastic pelvic masses was 32 (53.3%). Out of neoplastic lesions 24 (75%) were benign, 7 (21.8%) malignant and 1 (3.1%) was borderline lesion.

Age range was between 30-75yrs mean age was 52.5 years. The distribution of ovarian masses in different age groups is shown in chart 1



**Chart 1. Distribution of ovarian masses in various age groups**

Maximum number of benign masses (11/63) & malignant masses (4/7) were noted in the 41-50 yrs age group.

Among these 58 (96%) women underwent abdominal hysterectomy where as 2 (4%) were operated vaginally as shown in Table – 1.

**Table 1. Types of hysterectomy**

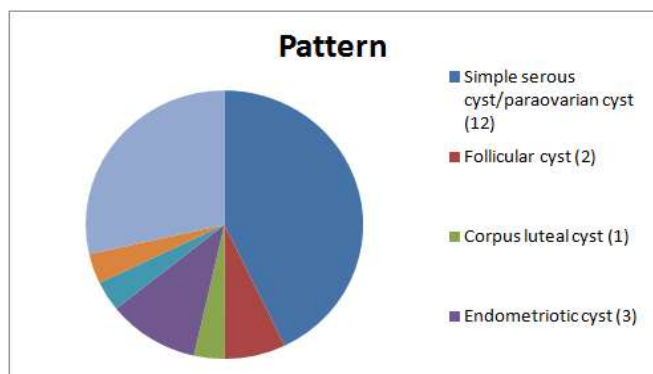
Type of operation	No.of patients	Percentage
Abdominal	58	96%
Vaginal	2	4%

Multiple indications for which operations were carried out are shown in Table-2.

**Table 2. Indications for previous Hysterectomy**

Indications	No. of Patients	%
Dysfunctional Uterine Bleeding	16	26.6
Fibroid	14	23.3
Ovarian cyst	1	1.6
Adenomyosis	5	8.3
No record	13	21.6
Chronic cervicitis	7	11.6
Postmenopausal Bleeding	1	1.6
Pelvic inflammatory disease	2	3.3
Chronic pelvic pain	1	1.6

Among the non-neoplastic masses, the commonest was Paraovarian – simple serous cyst followed by hydrosalpinx. Histopathological pattern of non neoplasm pelvic masses is shown in Chart 3



**Chart 3. Histopathological pattern of non-neoplastic ovarian masses**

Histopathological pattern of neoplastic pelvic masses – 32 (53.3%) is shown in Table – 3

**Table 3. Histopathological pattern of neoplastic pelvic masses**

Pattern	No.of Patients	%
Benign	24	75
Serous	12	50
Mucinous	11	45.8
Dermoid	1	4.2
Malignant	7	21.8
Serous	5	71.4
Mucinous	2	28.6
Borderline	1	3.1

Serous cystadenoma followed by mucinous cystadenoma were commonest benign ovarian tumors. There is one case of mixed tumor – Brenner with mucinous cystadenoma with borderline features .Of the 6 malignant tumors, 5 were serous epithelial tumor, 2 were mucinous tumors.

Clinical presentation of pelvic masses is shown in Table – 4

**Table 4. Clinical presentation of pelvic masses**

Symptoms	No. of Patients
Pain abdomen	26
Pain + GI symptoms	10
Abdomen distention	6
Abdomen distention + GI symptoms	1
Mass abdomen	8
Pelvic heaviness	2
Bleeding P/V	1
Only GI Symptoms	1

Abdominal pain followed by GI symptoms was the predominant presenting symptoms with pelvic masses. According to Ultrasonography, 21 (35%) patients had simple unilocular cyst, 32 (53.3%) had complex cyst and 7 (11.7%) women had solid mass as shown in Table - 5

**Table 5. Sonographic appearance of pelvic masses**

Complex masses	32	53.3%
Simple unilocular	21	35%
Solid masses	7	11.7%

Pelvic masses were managed by either laparotomy or laparoscopy are shown in Table -6

**Table 6. Management of pelvic masses**

Laparotomy	54
Laparoscopy	6

Laparotomy was carried out in 54 (90%) patients & Laparoscopy in 6 patients.

The intraoperative findings are shown in Table - 7.

**Table 7. Intraoperative findings**

Ovarian Tumors	
Benign	24
Malignant	7
Hydrosalpinx	9
Paraovarian Cyst	3
Simple Ovarian Cyst	18

## DISCUSSION

Generally hysterectomy is regarded by females as end of gynaecological problems. But emergence of a pelvic mass subsequently has profound physical and psychological impact. Our study has looked into various possibilities along with its management. In the present study, incidence of pelvic masses is 3.4% and that of ovarian neoplasms is 53.3%. The incidence of non neoplastic masses and neoplastic masses is almost similar in our study. Mean age of malignant tumors is 48.5yrs which is similar to Mondal et al. The mean age of malignancy and incidence of benign and malignant ovarian masses of our study is compared with other studies in Table-8

**Table 8. Comparison of mean age of malignancy and incidence of ovarian neoplasm**

Parameters	Our study	Mondal <i>et al</i>	Sharada <i>et al</i>
Period of study	Jan 2012 – Dec 2014	Jan 2001 – Dec 2010	May 2009 – Jan 2013
No.of case	63	957	205
Place of study	Guntur	Calcutta	Chennai
Mean age malignancy	48.5 yrs	48yrs	41 yrs
Benign %	77%	63%	87%
Malignant %	23%	29.6%	10%

Youngest patient is 30yrs old, she underwent hysterectomy for endometriotic cysts at age of 25yrs. Only two patients (4%) were operated vaginally that is in accordance with the experience of others. Abdominal hysterectomy is still the commonest approach. Vaginal Hysterectomy is the state of art for a gynecologist who needs to have a good experience. Multiple indications of operation in our series were in accordance with world literature. In 13 women (21.6%) indication of surgery could not be ascertained due to non availability of operation record. It must be emphasized to all health professionals in periphery especially to provide comprehensive operative notes and histopathology record to patients once discharged.

Now, a rising trend in the Mucinous cystadenomas noted in our study comparable to Sharada *et al* study. This trend is significant as various molecular and histopathological evidences suggest that Mucinous epithelial ovarian cancers develop via a sequence from benign through borderline tumor to invasive cancer which suggests potential preventability of borderline and invasive Mucinous ovarian cancer by surgical excision of identifiable precursor lesions. This mucinous adenoma-carcinoma sequence embarks a significant change in treatment modality. Of the malignant tumors, Serous cyst adenocarcinoma accounted for 16% followed by 6.4% Mucinous cyst adeno carcinoma which is similar to Jha *et al*. study.

Pelvic masses have wide spectrum of imaging characteristics and clinical manifestations. Ultrasonography, Doppler are important in diagnosis, in monitoring and determining malignant potential and is cost effective. CT scan and MRI can also be considered as useful adjuvants. In our study 21 (35%) women presented with simple unilocular cyst, 32 (53.3%) women with complex mass and 7 (11.7%) with solid mass. Many disease processes may fit into more than one sonographic appearance. Hydrosalpinx may appear as unilocular or complex mass ovarian remnant might appear as simple / multilocular / multiseptate mass. In our study 54 patients (90%) had laparotomy & 6 patients were managed laparoscopically. In suspected malignancy staging and debulking laparotomy was carried out. After histopathology report malignant cases were referred to oncology department. Salpingectomy was carried out for hydrosalpinx by laparoscopic method.

## Conclusion

Emergence of pelvic mass after hysterectomy poses diagnostic and therapeutic challenge to gynecologist. Review of operation notes are of immense help regarding indications for surgery, ovarian conservation or removal and state of pelvic structures. Proper documentation is important on the part of medical staff and care of notes and histopathology report should be part of postoperative counseling. Operative intervention after hysterectomy needs careful dissection with bowel preparation as adhesions are common in such cases. Neoplastic pelvic masses have similar incidence as non-neoplasms. Rising trend in mucinous cystadenoma is noted. Mean age of malignant tumor is decreased.

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