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Original Research Article

## Overview of ovarian masses

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### ABSTRACT

**Background:** To study the incidence, clinical presentation and histopathological pattern of ovarian masses in patients attending Department of gynaecology in a tertiary center in Tamil Nadu.

**Methods:** Retrospective analysis of 77 cases from March 2015 to March 2016.

**Results:** The total incidence of ovarian masses was 8.5%. Among the ovarian masses 23.37% were non-neoplastic lesions and 71.4% were benign, 3.6% were borderline and 21.8% were malignant. All the malignant tumours were seen between 30-60yrs of age.

**Conclusions:** Ovarian neoplasms were thrice the incidence of non-neoplasm. Among the neoplastic lesion, benign neoplasms were common and the commonest was serous cystadenoma and the commonest malignant tumour was serous cyst adenocarcinoma.

**Keywords:** Ovarian tumour, Serous cystadenoma, Serous cystadenocarcinoma

### INTRODUCTION

The origin and pathogenesis of ovarian cancer has perplexed investigations for decades. The incidence of ovarian tumours is increasing in developing countries.<sup>1,2</sup> Ovarian tumours account for 30% of all cancers of female genital tract.<sup>3</sup> Ovarian malignancy ranks fifth in cancer death worldwide and in India it ranks third among the female genital tract malignancies.<sup>1</sup> A female risk at birth of having ovarian tumour in her life time is 6-7% and having ovarian cancer is almost 1.5% and dying from ovarian cancer is 1.0%.<sup>4</sup> Indian cancer registry data project ovary as an important site of cancer in women, comprising upto 8.75% of cancers.<sup>5</sup> Ovarian tumours are insidious in onset and usually diagnosed at a later stage. The complex histology and the anatomical location of ovary are responsible for the late presentation and its management difficulties. Hence a high index of suspicion is always needed. Biochemical markers and radiological assistance help in early diagnosis. Diverse histopathology

is common in ovarian lesions and hence diagnosing the specific histological type is important in offering treatment. So, this study has been done to analyse the age distribution, presenting symptoms and the various histopathological types of ovarian tumours in patients who underwent surgical management.

### METHODS

This is the retrospective analysis of patients with the ovarian masses from March 2015 to March 2016 at Government Mohan Kumaramangalam Medical College Hospital, Salem, Tamilnadu, India. All patients who were surgically managed are included in this study. Those patients who are conservatively managed and those with non-ovarian masses were excluded from this study. The details such as age, presenting symptoms, surgical details and histopathological reports were noted. Based on the HPE reports ovarian malignancies were analysed.

## RESULTS

**Table 1: Age distribution of ovarian masses (n=77).**

Age (Years)	No. of cases	Percentage
<20	3	3.9%
21-30	16	20.8%
31-40	17	22.1%
41-50	21	27.2%
51-60	30	16.9%
61-70	6	7.8%
>70	1	1.3%

Out of the total admissions of 900 patients in gynaec ward, 77 patients presented with ovarian masses with an incidence of 8.5%. Age distribution of cases of ovarian mass was between 20-70 yrs in our study. The maximum number of ovarian mass was presented in the age group of 21-50 yrs. Based on the clinical presentation, most of the patients presented with pain abdomen 50 (64%), mass abdomen 15 (19%) followed by abdominal symptoms 10 (12%). Among the ovarian masses 18 (23.37%) were of non neoplastic lesion. Out of the neoplastic lesion

41(74.5%) were benign, 2 (3.6%) borderline and 12(21.8%) were malignant. The commonest malignant tumour was serous cystadenocarcinoma 6 (50%) followed by mucinous cystadenocarcinoma 4 (33%).

Among the entire benign lesion (41) the commonest histological type was surface epithelial tumours followed by Germ cell tumour. Least common lesion was dysgerminoma and mixed germ cell tumour.

**Table 2: Distribution of various types of non-neoplastic ovarian lesions (n=18).**

Non-neoplastic lesions	No. of cases
Follicular cyst	4
Luteal cyst	2
Simple serous cyst	1
Hemorrhagic cyst	2
Endometriotic cyst	3
Oophoritis	2
Paraovarian cyst	1
Miscellaneous	3

**Table 3: Comparison of the histopathological pattern of ovarian masses.**

Histopathology	Our study	Sharadha et al <sup>8</sup>	Manivasagan et al <sup>12</sup>	Mondal et al <sup>11</sup>	Pilli et al <sup>9</sup>	Jha et al <sup>10</sup>
<b>Benign</b>						
Serous	48.8%	67%	59.5%	29.9%	42.9%	32.6%
Mucinous	39%	19%	29%	11.1%	25.5%	15.6%
Dermoid	7.3%	11.6%	14%	15.9%	17%	48%
<b>Malignant</b>						
Serous	50%	42.9%	-	11.3%	-	46.2%
Mucinous	33.3%	28.6%	-	3.3%	-	23%

## DISCUSSION

Age range of our subjects was from 20 to 70 yrs. In our study, the maximum incidence of ovarian masses was between 21 to 50 yrs of age. This differs from the western data where it is between 50 and 70 yrs.<sup>7</sup> Abdominal pain followed by mass abdomen and abdominal symptoms were common clinical presentation in our study comparable to Sharadha et al study (18). The incidence of the ovarian masses was about 8.5%. Out of the ovarian masses (77), the non-neoplastic ovarian masses was 23.37% (18/77) and the neoplastic ovarian mass was 71.4% (55/77). Among the neoplastic lesions 74.5% (41/55) were benign, 21.8% (12/55) were malignant and 3.6% (2/55) were border line. These were comparable to Pilli et al study and Jha et al (9/10).

Out of the benign tumours, serous cystadenoma accounted for 49%; mucinous cystadenoma 39%; germ cell tumours 7.3%; sex cord tumours 4.9% which was

comparable to study done by Pilli et al but differs from Mondel et al and Jha et al.<sup>9-11</sup>

In our study, mucinous tumours were on the rising trend comparable to the study done by Jha et al.<sup>10</sup> Of all the malignant tumours serous cystadenocarcinoma accounted for 50% followed by mucinous cystadenocarcinoma 33.3% which is comparable to study done by Sharadha et al and Pilli et al.<sup>8,9</sup> All the malignant ovarian tumours were presented between 30-60 yrs of age and the maximum occurrence was between 41-50 yrs. One case of dysgerminoma presented at 35 yrs of age. One case of mixed germ cell tumour presented at 65 yrs of age.

## CONCLUSION

Benign tumours were more common than the malignant ovarian tumours. Surface epithelial tumours are most common histological type in both benign and malignant tumours. Overall serous cystadenoma is the most

common benign and serous cystadenocarcinoma is the most common malignant tumour. Mucinous cystadenoma and mucinous cystadenocarcinoma are in the rising trend.

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