Original Research Article

A retrospective analytic study of clino-histopathological correlation of ovarian mass

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ABSTRACT

Background: Ovarian tumours account for 30% of all cancers of female genital tract. The study of histology of ovarian masses therefore is of prime importance. The objective of the study was the clinical and histopathological presentation of ovarian masses.
Methods: This is a retrospective analysis of 44 patients with ovarian masses from January 2014 to December 2014 at P. D. U. Medical College, Rajkot. Patients with ovarian masses who were surgically managed were included in the study. Patients with non-ovarian masses and those who were conservatively managed were excluded. The data was collected in Excel Sheet and analyzed by descriptive statistics and Chi-Square Test.
Results: Incidence of Ovarian masses was 20.85 % in our Institute. Among 44 cases 54.5 % were neoplastic. Among the neoplasms 95.83% were benign and 4.16% were malignant. Mean age of presentation of benign neoplasm was 38years and that of malignant was 50 years. Incidence of non-neoplastic ovarian masses was 45.5 %. Mean age of presentation of non-neoplastic ovarian masses was 31 years. Pain in abdomen was the most common clinical presentation of both neoplastic and non-neoplastic ovarian masses. Mucinous Cystadenoma and Teratoma-Dermoid Cyst were the commonest benign tumor followed by Serous Cystadenoma.
Conclusions: In our study, non-neoplastic ovarian masses presented in equal proportions as that of neoplastic ovarian masses. 31-40 years age group showed the highest propensity of occurrence of Ovarian Masses. Mucinous Cystadenoma was highly emerged most common benign Ovarian Mass in this study.

Keywords: Ovarian masses, Teratoma, Mucinous cystadenoma

INTRODUCTION

Ovarian tumours account for 30% of all cancers of female genital tract.[1] The total number of ovarian cancer cases worldwide has been estimated to be approximately 2 lakhs/year. It presents for approximately one fifth of the cancer deaths worldwide.

The etiology of ovarian tumours is still an issue of debate. The role of fallopian tube tumour cell spread to Ovary is being hypothesized rather than the ovary per se.

This contradicts to the discussion of role of ovulation induction in development of ovarian cancer. The study of histology of ovarian masses therefore is of prime importance.

METHODS

This is a retrospective analysis of 44 patients with ovarian masses from January 2014 to December 2014 at P. D. U. Medical College, Rajkot, Gujarat, India.

Patients with ovarian masses who were surgically managed were included in the study. Patients with non-ovarian masses and those who were conservatively managed were excluded. Demographic details like age, menstrual status, obstetric history, presenting symptoms, and surgery details were noted. Histopathological examination of the surgically removed tissue was conducted in the Department of Pathology of the same institute with appropriate stains.

The data was collected in excel sheet and analysed by descriptive statistics and Chi-square test.

RESULTS

Out of 211 admissions in the Gynecology ward, incidence of ovarian masses was 20.85% (44 Patients) and that of ovarian neoplasm was 11.37% (24 Patients). Among ovarian masses, neoplasms accounted for 54.5% (23/44) and non-neoplasms accounted for 45.5% (21/44). Mean age of non-neoplastic ovarian mass was 32 years and benign neoplasm was 38 years and malignant was 50 years respectively.

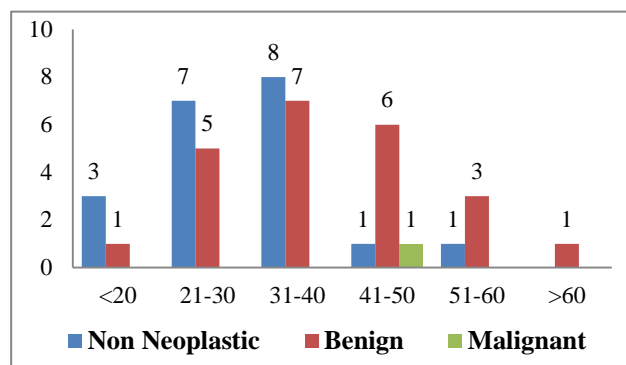### *Clinical presentation*

Age distribution

Figure 1: Distribution of ovarian masses in various age groups.

Table 1: Demographic and obstetric profile among ovarian masses.

Parameters	Non-neoplastic	Benign	Malignant
Menstrual status			
Reproductive	18	15	
Post-menopausal	2	8	1
Sterilization			
Yes	2	6	
No	18	17	1
Parity			
Nulliparous	5	2	
1, 2	8	7	1
>3	7	14	

Maximum numbers of non-neoplastic and benign cases were noted in 31-40 years age group. The only one patient with malignancy in our study group was 50 years old. The distribution of ovarian masses in different age groups is shown in Figure 1.

Table 1 shows menstrual status, sterilization, parity details of study group and its distribution amongst non-neoplastic, benign and malignant ovarian masses.

Most common presenting symptom irrespective of the type of tumour was pain in abdomen. One case with malignancy of ovarian mass presented with abdominal mass, pain in abdomen, weight loss and nausea.

Table 2: Clinical presentation of ovarian masses.

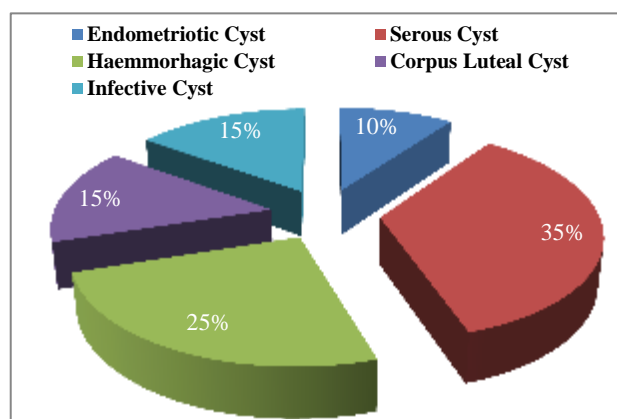| Symptoms	Non-neoplastic (%)	Benign (%)
Pain abdomen	90	86.95
Mass in abdomen	15	17.39
Abdominal symptoms	5	21.73
Menstrual symptoms	10	21.73
Urinary symptoms	5	21.73
Constitutional symptoms	25	17.39
Asymptomatic	5	Nil

Figure 2: Histopathological pattern of non-neoplastic ovarian tumours.

Among the non-neoplastic masses, the commonest was serous cyst (35%) followed by Haemorrhagic cyst (25%). Histological pattern of non-neoplastic tumours is shown in above pie Figure 2.

There were 7 patients of Mucinous Cystadenoma, 7 patients of Cystic Teratoma, 6 patients of Serous Cystadenoma, 2 cases of Thecoma and 1 patient of Papillary Cystadenoma.

There was one patient of malignancy-Serous Papillary Adenocarcinoma, which was referred to higher center for chemotherapy.
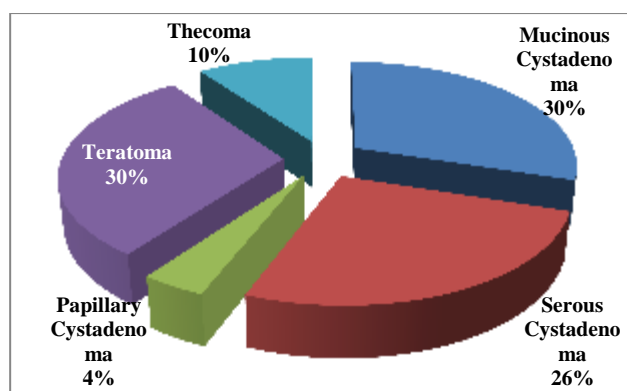
Figure 3: Histopathological pattern of benign ovarian masses.

DISCUSSION

In the present study, incidence of ovarian masses is 20.85% in our institute. In our study, maximum number of patients belonged to age group of 31 to 40 years which was similar to Shraddha SO et al study.[2] However in Makwana HH et al, the maximum number of patients belonged to 21 to 30 years age group.

In our study, patients without sterilization had 4 times higher incidence of having Ovarian Mass as compared to those who had done sterilization. But, Shraddha SO et al. study does not show any relation between sterilization and ovarian neoplasms.

Relation between Nulliparity and ovarian neoplasm is not statistically significant in our study which is comparable to Shraddha SO et al study.

Table 3: Comparisons between our study and other related studies.

Parameter	Our study	Shraddha SO et al[2]	Makwana HH et al[3]	Kanthikar SN et al[4]
Period of study	1 year	4 years	11 years	3 years
No. of cases	44	205	337	145
Place of study	P. D. U. Medical College, Rajkot	Medical College, South India	C. U. Shah Medical College Rajkot	Tertiary Care Center, Dhule Maharashtra
No. of non-neoplastic cases	21	65	197	75
No. of neoplastic cases	23	140	140	70

Table 4: Comparison of histopathological pattern of ovarian masses.

Parameter	Our Study	Shraddha SO et al	Makwana HH et al	Kanthikar SN et al
M/C non-neoplastic	Serous cyst	Endometriotic cyst	Serous cyst	Serous cyst
M/C benign	Mucinous cystadenoma	Serous cystadenoma	Serous cystadenoma	Serous cystadenoma
M/C malignant	Serous cystadenocarcinoma	Serous cystadenocarcinoma	Serous cystadenocarcinoma	Serous cystadenocarcinoma

M/C-most common

CONCLUSION

In our study, non-neoplastic ovarian masses presented in equal proportions as that of neoplastic ovarian masses. 31-40 years age group showed the highest propensity of occurrence of Ovarian Masses. Mucinous Cystadenoma was highly emerged most common benign Ovarian Mass in our study.

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