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RETROSPECTIVE CLINICOPATHOLOGICAL ANALYSIS OF OVARIAN TUMOURS IN A RURAL MEDICAL COLLEGE OF NORTHERN KERALA

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ABSTRACT

Back ground: Ovarian masses are extremely common gynaecological problems ranging from physiological cysts to aggressive neoplasms. Immunohistochemical and chromosomal studies are important in the diagnosis and differentiation of ovarian tumours, but in developing countries like India, histopathological studies still form the backbone of diagnosis of these tumours. **Aims and objectives**: To study the incidence of various types of ovarian masses and its demographic features and to find out the correlation between clinical and histological features. **Materials and methods**: This retrospective of two year duration was conducted in obstetrics and Gynaecology department of Malabar Medical College Hospital and Research Centre, a tertiary care centre in Kozhikode, Kerala from 2019 June to 2021 June. Total 135 ovarian cases were studied. Women surgically managed for ovarian pathologies were included. Information regarding age, parity, presenting symptoms, clinical details, mode of surgical approach and histology was collected from the patient's records. The data was analysed using descriptive statistics. **Results**: Among 135 patients ranging from age of 13 to 65 and above, maximum incidence of ovarian masses were in age group 35 to 54 (55%).Majority of ovarian masses were benign (88.14%), followed by equal distribution of borderline and malignant types (5.9%).Most common histopathology was surface epithelial type in benign ovarian masses(47.06%) followed by almost equal distribution of mucinous cystadenoma and mature cystic teratoma(20.17%),(18.48%).Most common malignant type was serous cystadenocarcinoma(37.5%)followed by endometriod carcinoma(25%). **Conclusion:** Ovarian tumors affect women of all age groups with increasing incidence of malignancy as age advances. Histopathology plays a key role in differentiating the various types of ovarian tumors. Tumors of epithelial origin are the commonest type in both benign and malignant ovarian masses.

KEYWORDS: Ovarian tumour, clinicopathological correlation, Ovary.

INTRODUCTION

Ovarian cysts are extremely common forms of gynaecological problems in females of all age groups,[1] that can range from physiological cysts to highly aggressive neoplastic lesions.[2] Primary ovarian tumours ex- hibit a wide range of clinical and histopathological presentations. Tu- mours showing epithelial differentiation are the most frequent primary ovarian tumors. Primary neoplasms of ovary comprise benign and ma- lignant lesions, which may present superficial germinate epithelial - dif- ferentiation of the stromal sexual cord. Of them, malignant epithelial ovarian tumours are associated with the highest mortality of all gynae- cological cancers.[3] It is the third most common site of primary malig- nancy in female genital tract after cervix and endometrium accounting for 30% of all cancers of female genital tract. Worldwide, the number of newly diagnosed cases of ovarian cancer is approaching 250,000 per year.[4] Therefore preoperative evaluation of ovarian masses is very im- portant. Ovarian tumours cannot be accurately distinguished from one another on the basis of their clinical and radiological characteristics alone. Chemotherapy and radiotherapy are highly specific for a single type of neoplasm. Hence, accurate histological diagnosis is critical. Ap- propriate preoperative evaluation to discriminate between benign and malignant adnexal masses helps guide gynaecologists refer women with suspected malignancies to a

gynaecologic oncologist for appropriate therapy and optimal debulking, which is known to improve survival rate.[5] Immunohistochemical and chromosomal studies are important in the diagnosis and differentiation of ovarian tumours, but in developing countries like India, histopathological studies still form the backbone of diagnosis of these tumours.[6] In our institution, we have noticed an in- crease in the number of patients diagnosed with ovarian malignancy, especially epithelial ovarian cell carcinoma,although several ovarian cancer risk factors are common among ovarian cancer patients living in urbanized and rural areas. Hence our aim is to retrospectively analyse the various demographic and clinicopathological features of ovarian masses, in patients who underwent surgery at Malabar Medical College hospital and Research Centre.

MATERIALS AND METHODS

This retrospective study of two year duration was conducted in obstetrics and Gynaecology department of Malabar Medical College Hospital and Research Centre, a tertiary care centre in Kozhikode, Kerala from 2019 June to 2021 June. Total 135 women who were surgically managed for ovarian pathologies were included in the study. Patients who underwent hysterectomy with both ovaries retained were excluded from study.

Information regarding age, parity, presenting symptoms, clinical details, mode of surgical approach and histology was collected from the patient's records and entered in Microsoft excel sheet and analysed. Descriptive statistics was used for analysis. Results were expressed in terms of percentages and frequencies.

The study was approved by institutional ethical committee.

RESULTS

The total admissions to the gynaecology ward were 1625 in the study period. Number of ovarian masses with surgical interventions was 135 with an incidence of 8.3%. According to Table 1, we had patients in all age groups ranging from 13 yrs. to above the age of 65.Maximum patients were in the age group of 35 to 44 and 45 to 54 with almost same incidence.(28.14% and 27.4%). Table 2 shows that majority of ovarian masses were benign (88.14%), followed by equal distribution of borderline and malignant types (5.9%)

Age distribution of benign, borderline and malignant ovarian tumours was shown in Table 3. Most of benign masses occurred in the age group of 35 - 54((55%) with equal age distribution of borderline masses and malignant mass.

Table 4 shows the relative frequency of clinical symptoms. Most common clinical presentation in our study group was abdominal pain (20.74%) followed by mass per abdomen, gastrointestinal disturbances, and menstrual irregularities (15.56%) (14.81%) (14.07%). Significant group of women had excessive discharge per vaginum and acute abdomen as presenting symptom (6.67%), (4.44%). In 2.96% of women, ovarian mass detected during evaluation of infertility and 2.22% had urinary disturbance as presenting symptom.

Histopathology of ovarian masses was shown in Table 5.According to this table, most common histopathology was surface epithelial type in benign ovarian masses (47.06%) followed by almost equal distribution of mucinous cystadenoma and mature cystic teratoma (20.17%), (18.48%). In borderline, most common histopathology was mucinous cystadenoma (50%), followed by serous cystadenoma (25%). Most common malignant type was serous cystadenocarcinoma (37.5%) followed by endometroid carcinoma(25%).Other varieties observed were mucinous adenocarcinoma, carcinosarcoma and sertoli cell tumour with an incidence of 12.5%.

Table 1: Age related incidence of ovarian tumour.

Age	Number of patients	Percentage
13-24	9	6.6
25-34	14	10.3
35-44	38	28.14
45-54	37	27.4
55-64	19	14.07
65 and above	18	13.3

Table 2: Types of ovarian tumour.

Type	Number of cases	Percentage
Benign	119	88.14
Borderline	8	5.9
Malignant	8	5.9
Total	135	

Table 3: Age wise distribution of benign, borderline & malignant ovarian tumors.

Age	Benign	Borderline	Malignant	Total	P
13-24	8	1	0	9	6
25-34	11	2	1	14	1
35-44	35	1	2	38	2
45-54	32	2	3	37	2
55-64	17	1	1	19	1
65 and above	16	1	1	18	1

Table 4: Distribution of clinical presentation.

Symptoms	Number of patients	Benign	Malignant	Borderline
Abdominal pain	28(20.74%)	12	6	6
Mass per abdomen	21(15.56%)	6	6	5
Pain abdomen with mass	17(12.59%)	5	5	5
Acute abdomen	6(4.44%)	4	1	1
Menstrual irregularities	19(14.07%)	5	6	6
Infertility	4(2.96%)	4	0	0
Gastrointestinal disturbances	20(14.81%)	3	10	3
Urinary disturbances	3(2.22%)	1	1	1
Excessive discharge pervaginum	9(6.67%)	2	4	3
Post-menopausal bleeding	8(5.92%)	3	3	2

Table 5: Incidence of various types according to histopathology.

	Type of tumour	Number of patients	Percentage
Benign	Serous cystadenoma	56	(47.06%)
	Mucinous cystadenoma	24	(20.17%)
	Fibroma	8	(6.72%)
	Mature cystic teratoma	22	(18.48%)
	Serous cystadenofibroma	8	(6.72%)
	Struma ovarii	1	(.8%)
Borderline	Serous cystadenoma	2	(25%)
	Mucinous cystadenoma	4	(50%)
	Serous cystadenofibroma	1	(12.5%)
	Seromucinous cystadenoma	1	(12.5%)
Malignant	Serous cystadenocarcinoma	3	(37.5%)
	Mucinous adenocarcinoma(Krukenberg tumour)	1	(12.5%)
	Endometrioid carcinoma	2	(25%)
	Carcinosarcoma(Malignant Mixed Mullarian Tumor)	1	(12.5%)
	Sertolicell tumour	1	(12.5%)

DISCUSSION

In the present study, the majority of the ovarian masses were found in the age group between 35 and 55years. In younger age group and elderly women, incidence was low. Malignant tumors commonly affected older age group (>40 years). The age distribution of tumors reported in the present study is comparable with the findings of other studies.[7,8]

The common symptoms observed in our study were abdominal pain(20%), mass per abdomen, menstrual irregularities and gastrointestinal disturbances (14-15%) similar to other studies.[9,10] Other less common symptoms observed were urinary symptoms, excessive discharge per vaginum, infertility and post-menopausal bleeding. The knowledge of symptoms and risk factors of ovarian cancer amongst women in the general population is low.[11] However, it is clear that women with ovarian cancer do experience symptoms most importantly gastro intestinal symptoms and report it to clinicians, but can be in advanced stage of diseases. A retrospective cohort study of 100 patients from Australia.[12] showed that 90% of the patients with early stage disease reported at least one symptom. The challenge for a general practitioner in primary care is to distinguish the symptoms of ovarian cancer from those of other conditions, such as irritable bowel syndrome or other gastrointestinal disease by clinical examination and imaging studies.

On histopathological examination, 119tumors were found to be benign (88%). The prevalence of benign adnexal masses in our study is similar to other Indian studies.[12] Predominant category was surface epithelial tumors in benign cases which is similar to other studies.[13,14] Surface epithelial tumour was the common type among benign cases, followed by almost equal incidence of mucinous cystadenoma and mature cystic

teratoma (20.17% & 18.48%) similar to other studies.[15] Other less common benign varieties observed are Fibroma, and serous cystadenofibroma. One case of Struma ovarii was also reported. Borderline and malignant varieties were observed with an equal incidence (5.9%). Serous cyst adenocarcinoma was the most common type among malignant cases[37.5%] similar to other studies.[16,17] Next common malignancy observed was endometrioid.

Type [25%] Metastatic tumors to ovary constituted 12% in our study which is almost similar to the incidence reported in the literature. Mucinous adenocarcinoma Sex cord stromal tumors also showed similar incidence of 12%, like in other studies.[18,19]

CONCLUSION

Ovarian tumors affect women of all age groups with increasing incidence of malignancy as age advances. Hence pre-operative evaluation of ovarian tumors is very important. Differentiation between a benign and malignant tumour is sometimes difficult on clinical assessment and imaging studies and histopathology is the gold standard to confirm the diagnosis. Based on the histopathology serous cystadenoma was the most common of the benign neoplasms and serous cystadenocarinoma was the commonest malignant neoplasm. Newer techniques such as immunohistochemistry, morphometric analysis, and flow cytometric ploidy status analysis can help in planning management of malignant ovarian neoplasm.

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