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Histopathological spectrum of ovarian mass lesions of patients in a tertiary care hospital

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ABSTRACT

Aims &objective: The aim of the present study was to evaluate the histopathological spectrum of ovarian mass lesions which were received in our department. **Materials and methods**: A total of **76** samples of ovarian tissue were received for histopathological evaluation, from women of different age groups, attending for surgery in obstetrics and gynecology department, presenting with various chronic gynecological complains were included in the study. **Results:** Out of 76 tissue, 69 (90.78%) cases were unilateral and 07 (9.21%) were bilateral. Forty-seven patients (61.84%) were belonging from the age group of 21-41 years. Benign neoplastic lesion was seen in 31 masses (40.78%) followed by non-neoplastic lesion in 43 cases (56.57%) and neoplastic lesion was observed in 2 cases (2.63%). **Conclusion:** The majority of ovarian lesions included in the study were benign and unilateral**.** Because of their presentation with mild symptoms. Early diagnosis and treatment of ovarian lesions will relieve the patient.

Key words: Histopathological evaluation, cervix, endometrium, ovarian mass lesions Follicular cysts, serous cystadenoma

INTRODUCTION

Tumors of the ovary are common neoplasm in women. Ovarian carcinoma is the commonest carcinoma involving the genital tract of woman after the cervix and endometrium. The histological manifestations of malignant germ cell neoplasm are sufficiently well recognized that they can now be readily distinguished and clinical and pathologic correlations made[1].

Because many of this ovarian neoplasm cannot be detected early in their development, they account for a disproportionate number of fatal cancers, being responsible for almost half of the deaths from cancer of female genital tract. Eighty percentage of ovarian neoplasm are benign in nature and involving the young women between the age group of 20 and 45 years old[2,3]. The malignant tumors are commonest in women of ages of 40 and 65 years with diverse morphology and relatively mild symptoms. Although ovaries do not function prior to puberty, they are not immune to the development of neoplastic conditions.

Neoplastic disorders can arise from Mullerian epithelium, germ cells or sex cord stromal cells. Tumors of the ovary are a common neoplasm in women[4]. The most common lesions in the ovary are functional or benign cysts and tumors. Ovarian neoplasm is usually detected at a late stage and is large in size, because of their presentation with mild symptoms. Early diagnosis and treatment of ovarian lesions will relieve the patient.

Materials and methods

Present research study was conducted in the Department of Pathology, S.K.M.C.H. Muzaffarpur, during the period of August 2024 to June 2025**.** A total of 76 samples of ovarian tissue were received for histopathological evaluation, from

the women of different age groups presenting with various chronic gynecological complains and admitted for surgery in obstetrics and gynecology department, were included in the study**.** Clinical complains from all the woman's regarding of age, religion, socioeconomic status, parity, locality was noted. All the tissues were processed with standard protocols Prepared slides was stained by H&E stains. Smears were seen under oil immersion microscope after proper mounting and labeling.

Results

Out of 76 tissue, 69 (90.78%) cases were unilateral and 07 (9.21%) were bilateral. Forty-seven cases (61.84%) were from the age group of 21-41 years (table-1). Benign neoplastic lesion was seen in 31 masses (40.78%), followed by non-neoplastic lesion in 43 cases (56.57%) and neoplastic lesion was observed in 2 cases (2.63%). Detailed histopathological findings of received tissue is tabulated in table-2.

Table-1

Table-1 shows distribution of age of patients with ovarian pathologies.

Age of patients in years	Total no. of patients - 76	Percentage (%)
Less than 20	2	2.63
21-41	47	61.84
42-60	23	30.26
More than 60	4	5.26

Table-2

Table-2 Shows histopathological evaluation of received tissue.

Histopathological distribution in broad group (n=76)	Histopathological findings	Total No. tissue received (n=76)	Percentage
Benign neoplastic lesion (n=31,40.78%)	Serous cystadenoma	17	22.36
	Mucinous cystadenoma	9	11.84
	Mature cystic teratoma	1	1.31
	Fibroma	2	2.63
	Fibro thecoma	1	1.31
	Serous cyst adenofibroma	1	1.31
Non-neoplastic lesion (n=43, 56.57%)	Follicular cyst	25	32.89
	Corpus luteum cyst	12	15.78
	Inclusion cyst	2	2.63
	Twisted cyst	1	1.31
	Endometriosis	1	1.31
	Edema of ovary	1	1.31
	Ectopic pregnancy	1	1.31
Neoplastic lesion (n=2, 2.63%)	Papillary serous cyst adenocarcinoma	1	1.31
	Borderline mucinous cystadenoma	1	1.31

Discussion

Ovary as a female genital organ was first identified by Hippocrates in 300 B.C. Later in 7th Century A.D., the name Ovary was coined. The Ovaries are paired intra-pelvic organs of the female reproductive system performing many important functions in the body. Ovary is a complex and unique organ has been presented with wide varieties of neoplasms. This has been due to the presence of many cell types in this organ under normal condition, including some cells which are multipotent to totipotent. Ovarian tumors have been rightly termed as spectrum of diseases rather than a single entity[5].

Benign Epithelial ovarian tumors are a common gynecologic problem needs to surgical treatment. Although these tumors are diagnosed most often in women in their thirties or forties, they can affect women of all ages and account for about 55% of all treated epithelial ovarian neoplasms.

Malignant tumors may be primary or metastatic. Ovary being a common site of primary malignancy and ovarian cancer ranks only below carcinomas of cervix and endometrium in Indian Females. It accounts for 6 % of all cancers in the females, and is the fifth most common form of cancer in-women in U.S.A. Surface epithelial tumors are 85% of malignant neoplasms arising in the ovary. Endotheloiod tumors are 50%, Sex-Cord tumors are 5% to 6% and Metastatic tumors are 5% to 10%. Germ cell ovarian tumors are common in younger women than their epithelial counter parts.

Since their original description in 1929, our knowledge of the natural history and molecular Pathology of border line ovarian tumors has advanced, most dramatically over the last decade[6]. It has been estimated that at the time of abdominal

exploration for a serous ovarian neoplasm a borderline ovarian tumor will be discovered in approximately 15% of cases, these tumors commonly affect women of reproductive age, have an excellent over-all prognosis sand the majority are cured with surgery.

Our study showed that out of 76 tissue, 69 (90.78%) cases were unilateral and 07 cases (9.21%) were bilateral. Our study findings are in concordance with other researchers' studies (Prabhakar and Kalyani et al 90.9% unilateral[8], Couto et al 91.25% unilateral[9], Thakkar and Shah et al 88.4% unilateral[10]). Authors Laterality Unilateral Bilateral Prabhakar et al 90.9% 9.1% Mishra et al 95.5% 4.5% Couto F et al 91.2% 8.7% Kar et al 73.13% 26.8%.

The majority about 61.84% of our patients were in the age group of 21-41 years, and 30.26% patients were belonged to 42 to 60 years of age. This is in concordance with the studies of Ramachandran et al (20-39 years -53.0%; 40-59 years - 30% of patients)[11] and Pilli et al (20-39 years -58.0%; 40-59 years-30% of patients)[12.] However, Thakkar and Shah[10] found only 25.6% of their patients in the age group 20-39 years and 53.5% in the age group 40 - 59 years. Kar et al reported 46.25% of patients in the age group 40-59 years.

Present study showed 43 (56.57%) lesions were non-neoplastic and 31(40.78%) lesions belonged to benign neoplasms. In contrast, in the study by Zaman et al, 68.87% of the lesions were non - neoplastic and 31.13% were neoplastic. Gurung et al found 43.7% non-neoplastic lesions in their study and 51.1% benign tumors.

Follicular cysts were the most common non-neoplastic lesion in our study (32.89%) followed by corpus luteum cysts (15.78%). In contrast, Gurung et al found endometriotic cysts in 17% and corpus luteum cysts in 9.6% of their cases. Maliha et al found 57.1% of functional cysts and 5.9% of endometriotic cysts in their study.

Our study showed serous cystadenomas were the most common benign neoplasm in 22.36% cases followed by mucinous cystadenoma (11.84%). This is in agreement with other studies. However, Yugamba et al reported serous cyst adenoma (21.4%) and mature cystic teratoma (19.9%) as the most common lesions in their study[7].

We had only 2 cases (2.63%) of malignant or borderline lesions in our study and were seen in four different decades of life and showed no age predilection. This reflects the wide clinical presentation of ovarian tumors. Given the small number of cases, no conclusions could be drawn from studying their frequency or distribution.

Conclusion

We propose a more detailed prospective study, to include genetic profiling, to establish the reason for this low incidence of malignant lesions in our dependent population.

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