www.jmscr.igmpublication.org
Index Copernicus Value: 79.54
ISSN (e)-2347-176x ISSN (p) 2455-0450
crossrefDOI: https://dx.doi.org/10.18535/jmscr/v7i3.41

IGM Publication
Journal Of Medical Science And Clinical Research
An Official Publication Of IGM Publication

Original Research Article

Histopathological Pattern of Ovarian Mass Lesions in a Tertiary Care Hospital, at Muzaffarpur, Bihar

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Abstract
Objective: *The aim of the present study was to identify the pattern of pathologies involving ovarian mass lesions which were received for histopathological evaluation.*
Materials and Methods: *A total of 126 woman of different age groups, attending in obstetrics and Gynecology OPD presenting with various gynecological complains of mucoid or mucopurulent vaginal discharge, chronic backache, lower abdominal pain, Irregular vaginal bleeding, post coital bleeding, pain during coitus and dysuria were included in study. All the data regarding age, religion, socioeconomic status, parity, and locality and presenting complains of the patients were noted. After surgery all the ovarian tissue were received in our Department for histopathological evaluation. After ensuring adequate tissue fixation, tissue slices were taken and processed. Microsections of 5 microns thickness were taken onto glass slides and stained by standard Hematoxylin and Eosin stains. After mounting and labeling smears were seen under oil immersion microscope.*
Results: *A total of 126 samples of ovarian tissue were received for histopathological evaluation, out of them 114 (90.47%) masses were unilateral and 12 (9.52%) were bilateral. Majority of patients 70 (55.56%) were in the age group of 21-41 years. The lesions were broadly classified as Benign Neoplastic lesions 52(41.27%), Non - Neoplastic lesions 71(56.35%) and Malignant Neoplastic lesions 3(2.38%). Follicular cysts were the predominant 36 (28.57%) non - neoplastic lesions diagnosed followed by corpus luteum cysts 20(15.87%). Serous cystadenoma was the most common benign neoplasia lesion diagnosed 34(26.98%), followed by Mucinous cystadenomas 13(10.31%)In Malignant neoplastic lesions Papillary serous cystadenocarcinoma 1 cases (0.79%), Borderline mucinous cystadenoma 1 cases (0.79%) and Granulosa cell tumor 1(0.79%) were diagnosed.*
Conclusion: *The majority of ovarian lesions received for evaluation were benign and unilateral. Most patients were in the third to sixth decades of life.*
Keywords: *Follicular cysts, Incidence of pathologies, ovarian mass lesions, serous cystadenoma.*

Introduction

Tumors of the Ovary are common neoplasm in women. Among cancers of the female genital tract, the incidence of ovarian cancers ranks below only carcinoma of 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. 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. About 80% are benign and these occur mostly in young women between the ages of 20 and 45 years. The malignant tumors are more common in older women between the ages of 40 and 65 years.

No age is immune to Ovarian Neoplasm. Although Ovaries do not function prior to puberty, they are not immune to the development of neoplastic conditions.

Ovarian lesions are unusual because of their diverse morphology and association with relatively mild symptoms. Neoplastic disorders can arise from mullerian epithelium, germ cells or sex cord stromal cells. Tumors of the ovary are a common neoplasm in women. The most common lesions encountered in the ovary are functional or benign cysts and tumors. Ovarian cancer is the sixth most common female cancer and is seen predominantly after the third decade of life. Ovarian neoplasm is usually detected at a late stage and is large in size, because of their presentation with mild symptoms. An accurate and early diagnosis of malignant lesions will go a long way in optimal management of these cases.

Materials and Methods

Present study was conducted in the Department of Pathology, Sri Krishna Medical College, Muzaffarpur, with the help of Department of Obstetrics and Gynecology, during the period of June 2017 to December 2018. A total of 126 woman of different age groups, attending in obstetrics and Gynecology OPD presenting with various gynecological complains of mucoid or mucopurulent vaginal discharge, chronic backache, lower abdominal pain, Irregular vaginal bleeding, post coital bleeding, pain during coitus and dysuria were included in study. All the data regarding age, religion. Socioeconomic status, parity, locality and presenting complains of the patients were noted. After surgery all the ovarian tissue were received in our Department for histopathological evaluation. After ensuring adequate tissue fixation, tissue slices were taken and processed. Microsections of 5 microns thickness were taken onto glass slides and stained by standard Hematoxylin and Eosin stains. After mounting and labeling smears were seen under oil immersion microscope.

Results

A total of 126 samples of ovarian tissue were received for histopathological evaluation in our Department, out of them 114 (90.47%) masses were unilateral and 12 (9.52%) were bilateral. Majority of patients 70 (55.56%) were in the age group of 21-41 years.

The lesions were broadly classified as Benign Neoplastic lesions 52(41.27%), Non - Neoplastic lesions 71(56.35%) and Malignant Neoplastic lesions 3(2.38%). Follicular cysts were the predominant 36 (28.57%) non - neoplastic lesions diagnosed followed by corpus luteum cysts 20(15.87%).

Serous cystadenoma was the most common benign neoplasia lesion diagnosed 34(26.98%), followed by Mucinous cystadenomas 13(10.31%)

In Malignant neoplastic lesions Papillary serous cystadenocarcinoma 1 cases (0.79%), Borderline mucinous cystadenoma 1 cases (0.79%) and Granulosa cell tumor 1(0.79%) were diagnosed.

Table-1 shows age of patients operated for ovarian pathologies

Age of patients in years	Total no. of patients (n=126)	Percentage
Less than 20	4	3.17
21-40	70	55.56
42-60	45	35.71
More than 60	7	5.55

Table-2 Shows Histopathological Evaluation of Received Tissue

Histopathological distribution in broad group (n=126)	Histopathological Findings	Total No. Tissue Received (n=126)	Percentage
Benign Neoplastic Lesion (n=52,41.27%)	Serous Cystadenoma	34	26.98
	Mucinous Cystadenoma	13	10.31
	Mature Cystic Teratoma	1	0.79
	Fibroma	2	1.58
	Fibrothecoma	1	0.79
	Serous Cystadenofibroma	1	0.79
Non-Neoplastic Lesion (n=71, 56.35%)	Follicular Cyst	36	28.57
	Corpus Luteum Cyst	20	15.87
	Inclusion Cyst	8	6.34
	Twisted Cyst	2	1.58
	Endometriosis	2	1.58
	Edema of Ovary	2	1.58
	Ectopic Pregnancy	1	0.79
Neoplastic Lesion(n=3, 2.38%)	Papillary Serous Cyst Adenocarcinoma	1	0.79
	Borderline Mucinous Cystadenoma	1	0.79
	Granulosa Cell Tumor	1	0.79

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.

Benign Epithelial ovarian tumors is 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. 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 revealed that 114 out of 126 ovarian specimens were unilateral (90.47%) and only 12(9.52%) were bilateral. Our findings are in concordance with other studies (Prabhakar and Kalyani-90.9% unilateral, Couto et al 91.25% unilateral, Thakkar and Shah- 88.4% unilateral). Laterality of ovarian neoplastic lesions in various studies in comparison with present study. Authors Laterality Unilateral Bilateral Prabhakar et al 90.9% 9.1% Misra et al 95.5% 4.5% Couto F et al 91.2% 8.7% Kar et al 73.13% 26.8%.

The majority 55.56% of our patients were in the age group 21-41 years, and 35.71% 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) and Pilli et al (20-39 years -58.0%; 40-59 years-30% of patients). However, Thakkar and Shah 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.

In present study, 71 (56.35%) lesions were non - neoplastic , 52(41.27%) lesions in our study were benign neoplasms. In contrast, in the study by Zaman et al, 68.87% of the lesions were non - neoplastic and 31.13% were neoplastic. 15 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 (28.57%%) followed by corpus luteum cysts (15.87%). In contrast, Gurung et al found endometriotic cysts in 17% and corpus luteum cysts in 9.6% of their cases. Maliheh et al found 57.1% of functional cysts and 5.9% of endometriotic cysts in their study.

Serous cystadenomas were the most common benign neoplasm encountered in our study (26.98%) followed by mucinous cystadenoma (10.31%). This is in agreement with other studies. However, Yogambal et al reported serous cyst adenoma (21.4%) and mature cystic teratoma (19.9%) as the most common lesions in their study.

We had only 3 cases (2.38%) 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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