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RETROSPECTIVE STUDY OF SPECTRUM OF OVARIAN LESIONS IN SGMH/GMH REWA, VINDHYA REGION (M.P.), INDIA

Pathology

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ABSTRACT

Introduction: In the developed world, ovarian carcinoma are the fourth or fifth most common cause of death from all cancers in women. Ovarian cancers account for 6% of all cancers in females. 80% are benign and these occur mostly in between the ages 20 –45 years. Malignant tumours are commonin between the ages of 40 – 65 years.

Aims: To study the incidence of different histological types of ovarian lesions, histomorphological features, categorize ovarian lesions into neoplastic and non-neoplastic group and correlate incidence of neoplastic and non-neoplastic lesion with particular age group and parity.

Material and Methods: The study was conducted on approximate 100 patients of ovaries received these include surgically resected ovaries, either as part of total abdominal hysterectomy with bilateral salpingo-oophorectomy or as a clinically diagnosed ovarian lesions from Shyam Shah Medical College and Sanjay Gandhi Memorial Hospital, Rewa (M.P) from duration July 2016 to June 2018.

Results: The total number of ovarian lesions studied during study period was 100 cases, amongst them 30(30%) cases were non-neoplastic and remaining 70(70%) cases were neoplastic. The most common non-neoplastic lesion seen was follicular cyst 12(40%) cases, followed by corpus luteal cyst 8(26.66%) cases. Among the 70 neoplastic ovarian lesions 52(74.28%) cases were benign , 2(2.85%) case was at borderline and 16(22.85%) cases were malignant. In benign ovarian neoplasm ,most commonly lesion were serous cystadenoma 24(48.57%) cases, followed by benign cystic teratoma 8(11.42%) cases. In malignant cases, most common lesion were serous cystadenocarcinoma 6(8.57%) cases, followed by mucinous cystadenocarcinoma 4(5.71%) cases. Benign tumours were more common in age group of 20-39 years,while malignant tumours were more common in age group of 40-59 years. The malignant tumours were more common in nulliparous women (33.33%) than benign neoplasm (15.38%).

Conclusion: The histological type of ovarian tumor correlates with the prognosis of the tumour. Serum CA-125 screening along with annual pelvic examination after 35 years of age in women along with Transvaginal USG can be used as regular screening methods to evaluate early detection of ovarian cancer.An accurate histopathological diagnosis combine with clinical staging will help in rendering prompt and appropriate treatment to the patients.

KEYWORDS

Incidence, Neoplastic ovarian Lesions, Non-neoplastic lesions, Histopathology

INTRODUCTION:

Tumours of the ovary are common forms of neoplasms in women.1 In the developed world, ovarian carcinoma are the fourth or fifth most common cause of death from all cancers in women, and the primary cause of death from gynecological malignancies; 7% of patients with these tumours present with advanced stage disease.2

The most important clinical feature in ovarian tumour is the age of the patient. One of eight ovarian tumours in patients less than 45 years of age is malignant; by contrast, in older women, the proportion is one to three. The single most common ovarian tumour, the mature cystic teratoma (dermoid cyst) is encountered at all ages, like most tumours in the sex cord-stromal category.3 Ovarian cancers account for 6% of all cancers in females. 80% are benign and these occur mostly in young women between ages 20 –45 years. Malignant tumours are common in older women between the ages of 40 – 65 years. 4 Classification of ovarian tumours is primarily morphological, based on four major types of tissue:4 Surface, coelomic or germinal epithelium, Germ cells, Sex cord and Ovarian stroma, specialized and nonspecific.

Aims and Objectives: To incidence of different histological types of ovarian lesions, histomorphological features, categorize ovarian lesions into neoplastic and non-neoplastic group and correlate incidence of neoplastic and non-neoplastic lesion with particular age group and parity.

Material and Methods: The study was conducted on approximate 50 patients of ovaries received these include surgically resected ovaries, either as part of total abdominal hysterectomy with bilateral salpingo-oophorectomy or as a clinically diagnosed ovarian lesions from Shyam Shah Medical College and Sanjay Gandhi Memorial Hospital, Rewa (M.P) from duration April 2017 to March 2018. All the specimens received at department of Pathology, were procedure Fixation → Grossing → Dehydartion → Wax impregnation → blocking section cutting & followed by H & E section.

Inclusion Criteria- All the specimen of ovarian lesion (neoplastic and non-neoplastic) sent to the department of Pathology, were included. Hysterectomy specimen with ovarian lesion were also be included.

Exclusion Criteria- Decomposed and poorly and improperly fixed specimens.

Data collection of the histopathological slides of patients included in the study were retrieved and reviewed by me and experienced histopathologist to confirm ovarian neoplasm diagnosis, determine the histopathological type of the tumour, and classify the ON using the WHO classification. Data analysis for quantitative data mean standard deviation etc. were obtained and for qualitative data, proportion will be obtained and analyzed by using statistical software or MS excel.

Results:

The present study out of 100 cases of ovarian lesions, 70 cases were neoplastic. The neoplastic lesion comprised 52/70(74.28%) benign, 2/70(2.85%) borderline and 16/70(22.85%) malignant tumours. (Table -1)

Table No. 2 shows that in non-neoplastic lesions, follicular cyst was the most common lesion 12/30(40%) followed by corpus luteal cyst 8/30(26.66%), hemorrhagic cyst (20%), endometriosis (6.66%) and inclusion cyst (6.66%). (Table -2)

Table No. 2 and 3 shows that in neoplastic lesion most common histological class is surface epithelial tumours 52 /70(74.28%) followed by germ cell tumours 10/70(14.28%). Among all the benign lesions (n=52) serous cyst adenoma is the commonest 34/52(65.38%) while the benign cystic teratoma (dermoid cyst) is the second commonest 8/52(15.38%). On the other hand, amongst all the malignant lesions(n=16), serous cystadenocarcinoma is the commonest 6/16(37.50%), followed by mucinous cystadenocarcinoma 4/16 (25.00%).

In germ cell tumour most common benign tumour was dermoid cyst

and most common malignant tumour was dysgerminoma. In sex cord stromal most common benign tumour was fibroma and most common malignant tumour was granulosa cell tumour. Under metastatic group one case of krukenberg tumour comprising of 2.85% of all ovarian tumour was reported.

Table no.4 show that- Overall ovarian lesions were more common in age group of 20-39 followed by 40-59years.Benign tumours were more common in age group of 20-39 years, while malignant tumours were more common in age group of 40-59 years.

Table 1-Distribution of benign, borderline and malignant neoplasm

S. No.	Ovarian neoplasm	No. of cases	Percentage
1	Benign	52	74.28
2	Borderline	02	2.85
3	Maligannt	16	22.85
	Total	70	100

Table 2- Distribution of various types of Non-neoplastic Neoplastic ovarian lesions

SN	Non-neoplastic ovarian lesion	No. of cases	Percentage
1	Follicular cyst	12	40.0
2	Corpus luteal cyst	08	26.66
3	Hemorrhagic cyst	06	20.00
4	Inclusion cyst	02	6.66
5	Endometriosis	02	6.66
	Total	30	100.0
	Neoplastic Classes of ovarian tumour		
1	Surface epithelial -stromal tumour	52	74.28
2	Germ cell tumour	10	14.28
3	Sex cord stromal tumour	06	8.57
4	Metastatic tumour	02	2.85
	Total	70	100.0

Table 3- Histopathological patterns of Non-neoplastic and Neoplastic lesions of ovary

SN	Histopathological patterns	No. of cases	Percentage		
1	Follicular cyst	12	40.0		
2	Corpus luteal cyst	08	26.66		
3	Hemorrhagic cyst	06	20.0		
4	Inclusion cyst	02	6.6		
5	Endometriosis	02	6.6		
	Total	30	100.0		
	Histopathological patterns (Neoplastic)				
1	Surface epithelial stromal tumour	52	74.28		
	A	Serous tumour			
		1	Serous cystadenoma	34	48.57
		2	Borderline serous cystadenoma	02	2.85
		3	Serous cystadenocarcinoma	06	8.57
	B	Mucinous tumour			
		1	Mucinous cystadenoma	06	8.57
		2	Mucinous cystadenocarcinoma	04	5.71
2	Germ cell tumour	10	14.28		
		1	Benign cystic teratoma	08	11.42
		2	Dysgerminoma	02	2.85
3	Sex cord stromal tumour	06	8.57		
		1	Granulosa cell tumour	02	2.85
		2	Fibroma	04	5.71
4	Other	02	2.85		
		1	Metastatic tumour	02	2.85

Table 4- Distribution of ovarian masses in various age groups of patients with both non-neoplastic and neoplastic ovarian masses

Age in yrs	Non-neoplastic		Benign neoplasm		Borderline Neoplasm		Malignant Neoplasm		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
<19	2	13.33	1	3.84	1	100.0	1	12.5	5	10.0
20-39	11	73.33	20	76.92	-	-	1	12.5	32	64.0
40-59	2	13.33	3	11.53	-	-	4	50.0	9	18.0
>60	-	-	2	7.69	-	-	2	25.0	4	8.0
Total	15	100.0	26	100.0	1	100.0	8	100.0	50	100.0

DISCUSSION:

Kreuzer GF et al.,5reported 82 (40.39%) non-neoplastic lesions out of 203 ovarian lesions and Martinez-Onsurbe P et al.,6 reported 55 (41.67%) non-neoplastic lesions out of 132 ovarian lesions. Incidence reported in our study regarding non-neoplastic lesions was lower and concurring with the above studies. The non-neoplastic lesions like follicular or corpus luteum cysts are the commonly encountered conditions7. In current study 28 cystic lesions were reported out of which follicular 12 (42.85%), corpus luteum 8 (28.57%), 6 hemorrhagic cyst and 2 inclusion cyst. Incidence of these cysts were accordance with to Kreuzer GF et al.,5 (55% Follicular cyst and 45% corpus luteal cyst) and Martinez-Onsurbe P et al.,6 (55% follicular cyst and 45% corpus luteal cyst). Gupta N et al.,8 reported follicular and corpus luteal cyst (80.2%). Endometriosis is common condition found in women of reproductive age. The most common location of endometriosis is the ovary and posterior cul-de- sac9. In our study 2 cases (6.66%) were reported. These finding was higher than to Gupta N et al.,8 (2.9%), Carey M et al.,10 and Clement PB et al.,11. Al Fozen H and Tulandi T9 in a study conducted for 6 year reported 340 lesions out of which 155 (45.59%) were ovarian endometriosis. In clinically suspected ovarian pathology cases, the most common clinical symptoms were menstrual irregularities/ abnormal vaginal bleeding in 10 cases (33.33%), pain in abdomen in 8 cases (26.66%), pain in abdomen with white discharge per vagina in 4 cases (13.33%) and mass per abdomen only in 4 cases (13.33%). These findings were similar to Winter Jo TV et al.,12 study.

In the present study, 70 neoplastic lesions were diagnosed. The most common were benign tumours 52 cases (74.28%) followed by, malignant tumour 16 cases (22.85%) and borderline malignancy 2 case (2.85%).

In the present study maximum numbers of cases were in 3rd to 4th decade of life. Present study is in concordance with Pilli et al13 and Ramachandran et al14 where incidence of ovarian neoplastic lesions was more common in 20- 39 years of age group. Kar et al15 reported high incidence of ovarian tumors in 40-59 years age group.

There is inverse relation between ovarian cancer risk and parity. Parous women are at significantly lower risk than nulliparous women. In our study, incidence of nulliparity (16%) is comparable with Misra et al., (16.00%) and Madan et al., (14.54%)16-18.

Present study is concordant with studies by Gupta SC et al19 and Misra RK et al20 and with Couto F et al22 which showed high incidence of malignant tumor having more number of tumors with solid and mixed

consistency. Majority of the benign lesions (68.57%) in the present study were cystic in consistency. And majority of malignant lesions (22.85%) were having mixed consistency. This result is concordant with studies by Gupta N et al21 and Misra RK et al20.

Conclusion: Effective therapeutic management of ovarian malignant tumours continues to be a challenge to the oncologist. An accurate histopathological diagnosis combine with clinical staging will help in rendering prompt and appropriate treatment to the patients.

The histological type of ovarian tumor correlates with the prognosis of the tumour. Serum CA-125 screening along with annual pelvic examination after 35 years of age in women along with Transvaginal USG can be used as regular screening methods to evaluate early detection of ovarian cancer.

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