Research Paper

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HISTOPATHOLOGICAL SPECTRUM OF OVARIAN LESIONS IN TERTIARY CARE INSTITUTE OF CENTRAL INDIA

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ABSTRACT

Introduction: The ovarian pathology is currently among the widest and most complex problems in modern gynecology mainly through ovarian tumours. Its mortality rate exceeds the combined mortality of both endometrium and cervical neoplasm. We studied clinical spectrum, associated findings and the diverse histomorphological patterns of ovarian lesions, thus offering a specific diagnosis which is of paramount clinical significance for both pathologist and gynecologist for better understanding of the disease and planning proper management of the patients.

Materials And Methods: Histomorphological evaluation in 214 cases of ovarian neoplastic and non-neoplastic lesions received for histopathological diagnosis in three years duration. Detailed clinical, radiological, operative and gross findings were noted and co-related with histopathological findings.

Result: Out of 214 cases 133 were non neoplastic, 47 were benign, 03 were borderline and 31 were malignant. Most of the patients (62%) were from reproductive age group. Among non neoplastic lesions, simple serous cyst was most common (36%) followed by corpus luteal cyst (25%) hemorrhagic cyst (13.5%) and other. Of neoplastic lesions 55 are of surface epithelial type (66%) and germ cell tumour constituting 24.7% followed by other. Abdominal pain (38.7%) is most common presenting symptom followed by abdominal distension (34.1%), menorrhagia (18.2%), dysmenorrhea, polymenorrhea, weight loss, sterility, urinary symptoms and mass per vagina. Right ovary is affected more than left. All lesions of size 03cm or less are non neoplastic, 24 out of 31 malignant cases are more than 10 cm in size.

Conclusion:- Ovary is a frequent site for primary cancer and due to its complex structure, primary ovarian neoplasms are of diverse histological types. The diversity of neoplasms makes it mandatory to classify the tumours accurately as histopathological diagnosis combined with clinical staging will help in rendering prompt and appropriate treatment to the patient.

KEYWORDS

Cyst, Neoplastic, Ovary, Tumor

ARTICLE HISTORY

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Introduction:

The ovarian pathology is currently among the widest and most complex problems in modern gynecology mainly through ovarian tumours. Despite its small size, ovary requires attention of several specialties like endocrinology, gynecology and pathology. It is an organ with a complex physiology, which is always changing, undergoing more structural changes than any other organ (1).

The ovary is the third most common site of primary malignancy in female genital tract after cervix and endometrium accounting for 30% of all cancers of female genital tract(2). But mortality rate exceeds the combined mortality of both endometrium and cervical neoplasm (3).

There is no safe age group from these tumours, different tumours tending to involve different age groups preferentially (3). In clinical presentation of ovarian tumours menstrual disturbance, pain and other striking symptoms are rare. Consequently many of the malignant ovarian tumours have had variable periods of time to grow and often involve the adjacent organs before any symptoms develop or recognition takes place (3).

Despite the new techniques in imaging and genetics, the diagnosis of ovarian tumours is primarily dependent upon histological examination (4).The present study is undertaken to study clinical spectrum, associated findings and the diverse histomorphological patterns of ovarian lesions, thus offering a specific diagnosis which is of paramount clinical significance for both pathologist and gynecologist for better understanding of the disease and planning proper management of the patients.

The main aim of pathologist lies in distinguishing ovarian neoplasms from the wide spectrum of non-neoplastic lesions which frequently form a pelvic mass and are often associated with abnormal hormonal manifestation, thus potentially mimicking ovarian neoplasm. Their proper recognition in time is therefore important in guiding therapy (2).

Surgical management, in order to early diagnosis and aggressive treatment may improve survival of ovarian cancer especially in younger patients (below 45 yr old) (5). In contrast, surgical management of functional cysts (luteal mass or simple cyst) may not be beneficial in comparison with either medical treatment in the case of a luteal mass or expectant management in cases of a simple cyst (6, 7). Many functional ovarian cysts can be managed conservatively with

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observation and sometimes pain control (8). A thorough knowledge of the spectrum of ovarian disorders is essential to assist care providers in targeted evaluation and appropriate management and referrals.

MATERIALS AND METHODS

This is a retrospective and prospective study done in department of Pathology MGM Medical College and M.Y. hospital Indore during Oct 2013 to Sept 2015. This study is approved by ethical committee of institution. The present study is based on histomorphological evaluation in 214 cases of ovarian neoplastic and non-neoplastic lesions received for histopathological diagnosis.

Due importance was paid to record inpatient number, age, parity, family history, menstrual status, clinical history including presenting symptoms and signs, operation done, operative findings, radiological findings. Thorough gross examination was carried out and salient features were noted down. The gross specimens received were fixed in 10 percent formalin for 24 hours. Gross examination was done carefully examining the outer surface and on-cut surface of ovary, looking for any cyst with its content and type of fluid filled inside, any solid area, papillary projections and growth. Associated tissue piece if received were also carefully examined and grossed. Hematoxylin and Eosin (H&E) stain slides were examined and the lesions were then studied and classified as per the W.H.O. classification of ovarian tumours.

OBSERVATION & RESULT

Out of total 1860 gynecological specimens received, ovarian lesions were 214 accounting for 11.2% of total gynecological cases. Among these 214 cases, non neoplastic lesions are found in 133 (62.2%) cases, and 81 cases (i.e. 37.8%) are neoplastic lesions.

Of 81 neoplastic cases, benign lesions were found in 47 patients (58%) followed by 31 malignant cases (in 38%) and 03 borderline cases (4.0%).

133 patients (62%) were of reproductive age group (menstruating), 76 were of menopausal group (36.0%) and 05 were of premenstrual age group (2.0%).

Among patients with non neoplastic lesions, most of the patients were of late reproductive age group i.e. 31 to 45 years of age(44%) followed by menopausal age group (30%), early reproductive age group(20%), elderly group of > 60 years (4.5%) and premenstrual age group of <16 years(1.5%). Among non neoplastic lesions, simple serous cyst found in 48 cases, was most common (36%) finding followed by 33 cases of corpus luteal cyst (25%), 18 hemorrhagic cyst (13.5%), follicular cyst (10.5%), non specific oophoritis (7.5%), endometriosis (6.0%) and tuberculosis (1.5%).

Most common age group affected by neoplastic lesions is reproductive age group of 31 to 45 years of age (33.5%). 4.8% of the tumours are in pediatric age group. Malignant tumours were more common in menopausal age group of 46 to 60 years of age while benign tumours were more common in reproductive age group of 31 to 45 years of age. All neoplastic lesions in pediatric age group of <16 years of age were found to be malignant.

55 out of 81 tumours are of surface epithelial type (66%), 20 cases of germ cell tumour found constituting 24.7% of all tumours. We found 05 cases of sex cord stromal tumour and one case of Non Hodgkin's lymphoma.

Mucinous tumours are most common (33.4%) type of ovarian tumour. Serous tumour found in 32.1% of cases. We found one case each of malignant clear cell carcinoma and malignant Brenner's tumour.

Neoplastic lesions are more common in parous women having parity of one to four (69.0%), followed by grand multipara (18.0%) of parity >4. Thirteen percent of tumours are found in nulliparous.

Abdominal pain (38.7%) is single most common presenting symptom followed by abdominal distension (34.1%), menorrhagia (18.2%), dysmenorrhea, polymenorrhea, weight loss, sterility, urinary symptoms and mass per vagina.

Among 133 non neoplastic lesions, right sided cases found in 64 (48%), and left sided in 45 cases (34%) while 24 cases (18%) are bilateral.

Like non neoplastic lesions, neoplastic lesions are also found more common on right side (52%) than left(37%), while bilaterality in11% of the cases.

Relation of ovarian size with lesion- All lesions of size 03cm or less are non neoplastic. Of 133 non neoplastic cases, 72 are of size 4 to 6 cm, 36 cases of size 07 to 10 cm and 11 cases are >10cm. Out of 47 benign neoplastic lesions 25 are more than 10 cm in size, 18 are of size 07 to 10 cm and 04 cases are of 04 to 06 cm in size. 24 out of 31 malignant cases are more than 10 cm in size, 05 cases are of size 07 to 10 cm and 02 cases are of size 04 to 06 cm. Of tumour size more than 10 cm, 25 are benign tumours and 24 are malignant tumours. Out of 59 cases of size 07 to 10 cm, 36 cases are non neoplastic, 18 cases are benign tumours and 05 are malignant tumours.

After histopathological examination of ovarian lesion, various associated pathological findings are also found. As uterus, cervix, fallopian tube and other tissue are also received along with ovarian tissue (depending upon the operation done). Of these hydrosalphinx (20.2%) is most common finding followed by intramural leiomyoma(17.3%), salphingitis (14.2%), chronic cervicitis12.2%), adenomyosis(9.4%), endometrial hyperplasia(9.3%), ascites(4.7%), GIT problem(3.2%), submucosal leiomyoma(2.8%), subserosal leiomyoma(2.3%), carcinoma cervix(1.8%), prolapsed uterus(1.8%), paraovarian carcinoma(0.4%) and endometrial carcinoma (in sequence).

DISCUSSION

In our study 133 cases (63%) were non neoplastic lesion and 81cases (37%) were found to be neoplastic. Study done by Vidhi et al (9) showed 66% benign and 34 % malignant tumours. Pilli et al (10) had approximately similar results which showed that 75.2% ovarian tumours were benign, however this figure was only 59.2% in study carried in Pakistan by Ahmad et al.(11).

Among benign tumours serous cystadenoma was most common finding (38.3%) followed by mature teratoma (29.8%) and mucinous cystadenoma (27.6%).Vidhi et al (9) found benign serous tumours including serous cystadenoma as commonest benign tumour constituting 42.85% followed by mucinous cystadenoma (31.42%) and mature teratoma (22.14%).

Kooning et al found that epithelial tumours represent 60% of all ovarian neoplasm and 85% of malignant ovarian neoplasm (12). Bushra et al also reported 96% epithelial tumours in her series (13). %). In our study surface epithelial tumours constitute 68% of tumours followed by germ cell tumour (24.7%). 21 out of 31 malignant tumours are of surface epithelial type (67.7%).

Maximum of the patient with malignancy were over 45 years (45%) which is comparable to study done by Chakrabortti and Lee (14).

Of 214 no. of cases, 62.0% of the lesions were found in menstruating females followed by menopausal age group (36.0%). 2.0% of cases are of pre-menstruating. These finding are similar to Gonsai et al (15) where 79% of patients were menstruating, 18.8% were menopausal and 1.6% were premenstrual.

Ovarian tumours in the pediatric age group are not infrequent Oumachigui et al, found the incidence to be six per cent of all ovarian tumors (16). Sawai and Sirsat recorded the incidence as 11.2%.

Of non neoplastic lesions most common finding in our study is simple serous cyst(36%) followed by luteal cyst (25%). Gonsai et al (15) found 30.3% simple serous cyst and 22.7% luteal cyst. In their study non specific oophoritis was found in 9.0% of cases while we found in 7.5% of the cases.

We found abdominal pain in 38.7% of cases as most common presenting complaint followed by abdominal distension in 34.1% and menorrhagia in 18.2%. Gonsai et al found these findings in 52%, 16% and 18% of cases respectively.

CONCLUSION:- The ovary is a frequent site for primary cancer. Due to different cell types and its complex structure, primary ovarian neoplasms are of diverse histological types. The diversity of neoplasms makes it mandatory to classify the tumours accurately by histopathological features following universally accepted classification. Non neoplastic lesions are more common than the neoplastic lesion. Both non neoplastic and neoplastic lesions occurred more commonly in late reproductive age group of 30 -45 years.

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

Table 1: Histological Group Of Neoplastic Lesions:-

HISTOLOGICAL TYPE	NUMBER OF CASES	PERCENTAGE OF CASES
SURFACE EPITHELIAL TUMOURS	55	68.0%
SEX CORD STROMAL TUMOURS	05	6.1%
GERM CELL TUMOURS	20	24.7%
OTHER TUMOURS	01	1.2%
TOTAL	81	100%

TABLE 2: Age Distribution Among Non Neoplastic Lesions:-

	AGE GROUP						
HISTOLOGICAL TYPES	0-15 years	16-30 years	31-45 years	46-60 years	>60 years	Total	Percentage
NON SPECIFIC OOPHERITIS	0	3	5	1	1	10	7.5%
TUBERCULOUS	0	2	0	0	0	2	1.5%
FOLLICULAR CYST	0	3	5	5	1	14	10.5%
SIMPLE SEROUS CYST	2	6	20	17	3	48	36.0%
LUTEAL CYST	0	6	15	12	0	33	25.0%
HEMORRHAGIC CYST	0	4	8	5	1	18	13.5%
ENDOMETRIOSIS	0	3	5	0	0	8	6.0%
Total	2	27	58	40	6	133	100%

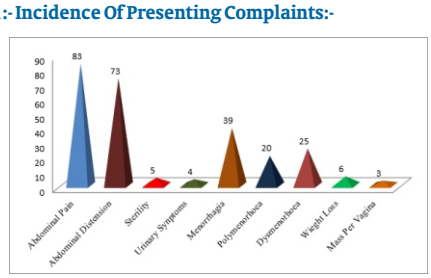
Table 03: Relation of Ovarian Size with Various Histomorphological Lesions

	Non neoplastic	Neoplastic			Total
		Benign	Borderline	Malignant	
≤3	14	00	00	00	14
4-6	72	04	1	02	79
7-10	36	18	00	05	59
>10	11	25	02	24	62
Total	133	47	03	31	214

Table 04: Presenting Complaints and Clinical Features:-

Clinical Features	Gonsai Et Al		Present Study	
	NO.	%	NO.	%
Abdominal Pain	130	52.0	83	38.7
Abdominal Distension	40	16.0	73	34.1
Sterility	07	2.8	05	2.3
Urinary Symptoms	04	1.6	04	1.8
Menorrhagia	45	18.0	39	18.2
Polymenorrhea	06	2.4	20	9.3
Dysmenorrhea	07	2.8	25	11.6
Weight Loss	02	0.8	06	2.8
Other	06	2.4	03	1.4

Graph 01:- Incidence Of Presenting Complaints:-



Graph02:- Incidence Of Associated Findings In Our Study

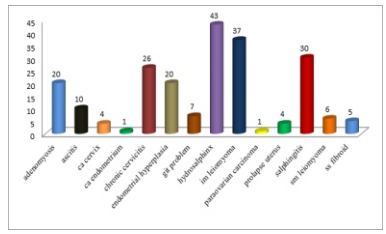
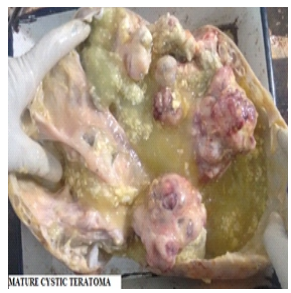


Figure1

Figure 2:-



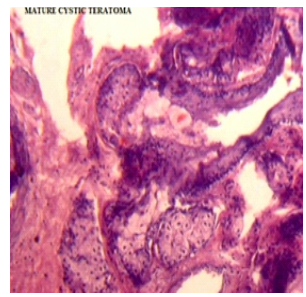
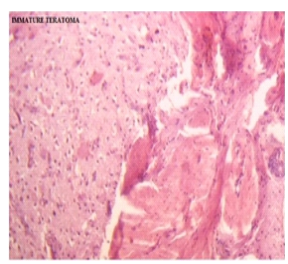


Figure3

Figure 4:-



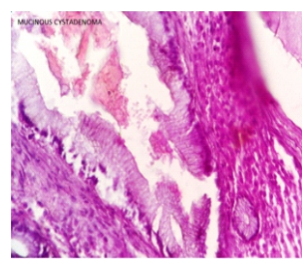
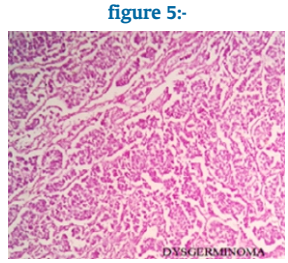
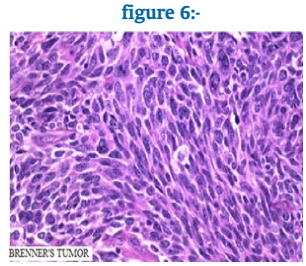


figure 5:-

figure 6:-





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