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TO STUDY RELATION BETWEEN SIZE OF OVARY AND VARIOUS HISTOMORPHOLOGICAL PATTERNS

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Abstract

Background & Method: The present study is based on histomorphological evaluation in 214 cases of Ovarian neoplastic and non-neoplastic lesions received at the department of Pathology of a Gandhi Medical College, Bhopal from Apr 2017 to March 2019.

Result: 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 07to 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.

Conclusion: Among the 214 cases, non neoplastic lesions (62.0%) were more common than the neoplastic lesion (38.0%). Overall incidence of malignancy was 14.4%, and it is 38% among neoplastic lesions. Among 133 non neoplastic lesions studied simple serous cyst (36%) was commonest followed by corpus luteal cyst (25%). Out of 81 tumours, surface epithelial tumours (67.6%) are the commonest ovarian tumours followed by germ cell tumours (24.7%).

Keywords: Ovary, Size & Histomorphological.
Study Designed: Observational Study.

Introduction

Knowledge of the ovary and the gradual evolution of use of this word to be used as female gonad have been reviewed by Gruhn (1), but it is only with the legendary Morgagni that the story really begins(2). In his work 'The Seats and Causes of Diseases' he refers to 'vesicles filled with grumous material' and a tumour that was 'evidently bony' hinting that he would had encountered dermoid cysts. Matthew Baillie, also recognized dermoid cysts, having a section in his 'Morbid Anatomy of the Human Body' on 'the ovaria changed into a fatty substance with hair and teeth (3). The early history of ovarian tumours is expertly summarized by Dr CG Ritchie in 1865(4).

Morphological diversity of ovarian tumours poses many challenges. Awareness of occurrence and frequency of these patterns and cell types in various tumour and tumour like lesions is of paramount diagnostic importance. Finally, clinical data, operative findings and gross features of the lesions may provide important and at times decisive diagnostic clues (5).

Despite the new techniques in imaging and genetics, the diagnosis of ovarian tumours is primarily dependent upon histological examination(6).The present study is undertaken to study the diverse histomorphological patterns of ovarian lesions and thus offering a specific diagnosis which is of paramount clinical significance.

Material & Method

The present study is based on histomorphological evaluation in 214 cases of Ovarian neoplastic and non-neoplastic lesions received at the department of Pathology of a Gandhi Medical College, Bhopal from Apr 2017 to March 2019.

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. Multiple sections from each specimen were taken to include the representative area for histological

examination. Sections were processed by routine paraffin method and blocks were cut at five micron thickness.

Sections were stained with conventional Hematoxylin and Eosin (H&E) stain. Slides were examined and the lesions were then classified and studied as per the W.H.O. classification of ovarian tumours.

Results

Table 1: Incidence of Ovarian Tumours of Different Subtypes:

HISTOLOGICAL TYPES	BENIGN	BORDERLINE	MALIGNANT	TOTAL	%
SURFACE EPITHELIAL					
SEROUS	18	01	07	26	32.1%
MUCINOUS	13	02	12	27	33.4%
BRENNER TUMOUR	-	-	01	01	1.2%
CLEAR CELL CARCINOMA	-	-	01	01	1.2%
SEX CORD-STROMAL					
GRANULOSA CELL TUMOUR	-	-	02	02	2.4%
FIBROMA-THECOMA	02	-	01	03	3.8%
GERM CELL TUMOURS					
TERATOMA	14	-	01	15	18.6%
DYSGERMINOMA	-	-	03	03	3.7%
YOLK SAC TUMOUR	-	-	02	02	2.4%
OTHER					
NHL	-	-	01	01	1.2%
TOTAL	47	03	31	81	100%

Mucinous tumours are most common type of ovarian tumour. 33.4% tumours are of mucinous type of which 13 are mucinous cystadenoma, 02 are borderline and 12 are malignant adenocarcinoma. Serous tumour found in 32.1% of cases, 18 are benign, 07 are malignant and 01 is borderline. We found one case each of malignant clear cell carcinoma and malignant Brenner's tumour. 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 Hodgkins lymphoma.

Table 2: **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

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 07to 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.

Discussion

Even after all the advancements made in the fields of cancer screening and diagnosis, carcinoma of ovary remains the leading cause of mortality. In present study 214 were studied, out of these cases 133 cases (63%) were non neoplastic lesion and 81cases (37%) were found to be neoplastic. Of these neoplastic lesions 47 cases were benign (58%), 04 cases (05%) were borderline and 30 were malignant tumours (37%) were recorded. Study done by Vidhi et al (88) showed 66% benign and 34 % malignant tumours. Pilli et al(7) 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(8).

Ovarian tumours in the pediatric age group are not infrequent (9), Oumachigui et al, 1991 found the incidence

to be six per cent of all ovarian tumours. Sawai and Sirsat recorded the incidence as 11.2%6 (Sawai MM et al, 1973).

Of non neoplastic lesions most common finding in our study is simple serous cyst(36%) followed by luteal cyst (25%). Gonsai et al(10) 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.

Conclusion

Among the 214 cases, non neoplastic lesions (62.0%) were more common than the neoplastic lesion (38.0%). Overall incidence of malignancy was 14.4%, and it is 38% among neoplastic lesions.

Among 133 non neoplastic lesions studied simple serous cyst (36%) was commonest followed by corpus luteal cyst (25%). Out of 81 tumours, surface epithelial tumours (67.6%) are the commonest ovarian tumours followed by germ cell tumours (24.7%).

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