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Original Research Article

Rainbows of Ovarian Lesions in Department of Pathology in a Tertiary Care Hospital

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Abstract

Background: Histopathological examination remains the gold standard for diagnosis of ovarian tumours. Morphological diversity of ovarian tumours poses many challenges in diagnosis. It is important to have knowledge regarding the non-neoplastic lesions since they may mimic neoplasm clinically and radiologically. *Methods:* All ovarian biopsies received in the department of pathology over a period of 3 years were studied. Clinical data was obtained from the histopathology requisition forms submitted with the tissue specimens to the Department of Pathology. Respective H&E stained slides were retrieved from the departmental archives and slides were reviewed. Analysis of data was done using descriptive statistics. *Result:* Totally 178ovarian lesions were studied over a period of 3 years. Majority of lesions (106 out of 178) were neoplastic and rest were (76 out of 178)non neoplastic. Commonest non neoplastic lesion encountered was follicular cyst. Commonest neoplastic lesion encountered was serous cystadenoma followed by mucinous cystadenoma. *Conclusion:* Ovarian lesions are complex and have varied histological appearance. It is difficult to differentiate the neoplastic and non-neoplastic lesions clinically and radiologically, hence thorough histological examination is mandatory in guiding the proper treatment.

Keywords: Ovarian biopsy; Neoplastic and non-neoplastic lesions.

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Introduction

Ovarian neoplasm is the most fascinating tumour of women in terms of its histogenesis, clinical behaviour and malignant potential.[1] Ovarian cancers are common among females comprising 6% of all cancers and 30% of cancers of female genital tracts.[2,3] No age group is safe from these tumors, different tumors tending to involve different age groups preferentially.[4] The age adjusted incidence rate vary from 2–15 per 100000 women. Despite the new techniques in imaging and genetics, the diagnosis of ovarian tumors is primarily dependent upon histopathological examination. Most ovarian tumors are benign.[1] The main aim 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 is therefore important in guiding therapy.[5] In the present study, we have analyzed the spectrum of ovarian lesions.

Aims and Objectives

1. To study frequency and distribution of different histological types of ovarian lesions.
2. To analyse age distribution of ovarian lesions.
3. To analyse the bilaterlity of the lesion

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Materials and Methods

This Retrospective, descriptive study was conducted in Department of pathology, Shimoga institute of medical sciences, Shimoga over the period of 3 years from January 2015 to December 2017. All ovarian lesions were included in the study expect the autolyzed specimens. Clinical data's were obtained from the histopathology requisition forms submitted with the tissue specimens to the Department of Pathology. Respective Hematoxylin and Eosin stained slides were retrieved from the departmental archives and slides were reviewed and analyzed for patterns to differentiate each entity from other. Descriptive statistics was done using Microsoft excel.

Results

178 ovarian lesions were diagnosed over a period of 3 years. Histologically 106 cases were neoplastic which constituted the major category and 76 cases were non neoplastic. Commonest non neoplastic lesion encountered was follicular cyst followed by corpus luteal cyst. There were 4 inflammatory conditions of ovary of which one case was tuberculosis. There was a case of ovarian ectopic pregnancy. Among neoplastic lesions benign lesions belonged to majorcategory. Commonest neoplastic lesion encountered was serous cystadenoma followed by mucinous cystadenoma (Tables 1, 2).

Table 1: Frequency of Non-neoplastic lesions of ovary

Non neoplastic lesions	Number of cases	Percentage
Follicular cyst	25	34.7
Corpus luteal cyst	18	25
Torsion	08	11.1
Stromal hyperplasia	01	1.3
Endometriosis	07	9.7
Oophritis	03	4.2
Tuberculosis ovary	01	1.3
Inclusion cyst	08	11.1
Ectopic pregnancy	01	1.3
Total	**72**	**100**

Table 2 : Frequency of Neoplastic lesions of ovary

Tumours	Number of cases	Percentages
Serous cystadenoma	40	37.7
Serous cystadenofibroma	04	3.7
Papillary serous cystadenoma	03	2.8
Borderline seromucinous tumour	01	0.9
Serous cystadenocarcinoma	03	2.8
Papillary serous cystadenocarcinoma	01	0.9
Mucinous cystadenoma	33	31.1
Mucinous cystadenocarcinoma	02	1.8
Endometrioid carcinoma	01	0.9
Transitional cell carcinoma	01	0.9
Fibrothecoma	01	0.9
Granulosa cell tumour	02	1.8
Granulosa theca cell tumour	01	0.9
Sertoli-leydig cell tumour	01	0.9
Teratoma	11	10.3
Mixed germ cell tumour (yolk sac tumour with dysgerminoma)	01	0.9
Total	**106**	**100**

Discussion

Ovary is a unique organ which can give rise to wide variety of lesions including non-neoplastic and neoplastic. Among neoplastic benign lesions was more common.[1] It is difficult to distinguish these lesions clinic-radiologically. Histopathology plays a very important role in differentiating the lesion and helps in choosing proper treatment. The present study comprises of 178 ovarian lesions received in the department of Pathology. The age varied between 20–65 yrs. Out of 178 lesions studied, majority of lesions were neoplastic lesions which constitutes 59.6% (106 out of 178) and rest

were non-neoplastic lesions that is 40.4% (72 out of 178). Similar findings were noted in study done by Fatima *et al*.,[6] However, another study by Gupta *et al*.[5] showed non neoplastic lesions predominance. With reference to laterality, most of the non-neoplastic lesions were bilateral compared to neoplastic lesions. Ovarian pregnancy constitutes only 1–3% of all ectopic pregnancies. We had one case of ovarian pregnancy which occurred in a 22 year primigravida. Increase in incidence might be due to the wider use of intra-uterine devices, ovulatory drugs and assisted reproductive techniques. Several case reports have been published.[9–11] Among the neoplastic lesions, Surface epithelial tumors constituted the major category (83.9%). The commonest tumour being serous cystadenoma (37.7%) followed by mucinous cystadenoma (31.1%) which is similar to most of the studies by Ghosh *et al.*, Fatima *et al.*, Manoja *et al.*, Jha *et al*.[4,6,7,8] Although it's common to have malignant tumour at an elderly age, some can occur at younger age. In our study we had a mucinous cystadenocarcinoma at the age of 29 years. This involved the both ovaries and interestingly it was associated with tuberculosis of left ovary and bilateral tubes. There are many cases of pelvic tuberculosis which mimics ovarian neoplasm clinically and radiologically, but coexistence of both tuberculosis and neoplasm is rare.[12–15] In our study, one case of malignant mixed germ cell tumor has been studied having a combination of dysgerminoma with yolk sac tumor. Incidence of sex cord stromal tumor was less in the present study, composed of 3 cases of granulosa cell tumor of which one was associated with theca cell tumour, each case of Fibrothecoma and Sertoli leydig cell tumour. Incidence accounts for only 4.7% of total tumors (5 out of 106) which was similar to studies by Manoja *et al*., Jha *et al*.[7,8]

Conclusion

Ovarian lesions are complex and have varied histological appearance. It is difficult to differentiate the neoplastic and non-neoplastic lesions clinically and radiologically, hence thorough histological examination is mandatory in guiding the proper treatment. Although it's common for malignant tumors to occur in old age, rarely they can present in young age also. It is uncommon to have dual entity including inflammatory and malignant lesions in same patient; hence proper clinic-radiological and histopathological examination is required for diagnosing those cases.

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