Original Research Article

Histopathological analysis of ovarian lesions in a tertiary care centre

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Abstract

Background: The occurrence of functional or benign cysts and tumors are quite common in the ovaries. The present study assessed histopathology of ovarian lesions. **Materials & Methods:** 96 ovarian masses specimens obtained from gynaecological department were studied. Microsections of 5 microns thickness were taken onto glass slides and stained by standard Hematoxylin and Eosin stains. Slides were studied and classified based on WHO guidelines. **Results:** Age group 21-30 years comprised of 16, 31-40 years 36, 41-50 years 34 and 51-60 years 10 lesions. There were 46 non- neoplastic lesions, 40 benign neoplastic and 10 malignant neoplastic lesions. Common non- neoplastic lesions were follicular cyst in 20, inclusion cyst in 4, corpus luteum cyst in 12, ectopic pregnancy in 3, twisted cyst in 2, endometriosis in 2 and edema of ovary in 3 cases. Common non- neoplastic lesions comprised of fibroma in 20, fibrothecoma in 5, mucinous cystadenoma in 8, serous cystadenoma in 3, mature cystic teratoma in 2 and serous cystadenofibroma in 2 cases. The difference found to be significant (P< 0.05). **Conclusion:** Common non- neoplastic lesions were follicular cyst, corpus luteum cyst and common benign neoplastic lesions comprised of fibroma and mucinous cystadenoma. Common malignant neoplastic lesions were granulosa cell tumor and papillary serous cystadenoma.

Key words: Cystadenofibroma, Hematoxylin, Neoplastic

Introduction

Ovary is a reproductive female organ. There are pair of ovaries. It comprises of sex cells which are totipotential as well as mesenchymal cells which are multipotential[1]. Germ cells, sex cord stromal cell and mullerian epithelium can lead to any kind of tumor once it becomes neoplastic. It poses huge challenge for gynecological oncologist[2]. Both neoplastic and non-neoplastic lesions of ovaries are common in females[3]. Hence, careful evaluation and classification is of paramount importance in order to treat lesions successfully[4].

The occurrence of functional or benign cysts and tumors are quite common in the ovaries[5]. It is evident that ovarian cancer is the 7th foremost cause of cancer death among females universally and in India it's encompassing up to 8.7% of cancers in different parts of the country. It is relatively common in third decades of life[6]. These become evident in later stage with advanced size owing to occurrence of mild symptoms. Lesions of ovaries have variable histopathological presentations. Due to this, chemotherapy and surgery are of less value in these patients. The occurrence of invasive epithelial ovarian cancer is at 50-60 years of age[7]. Studies show that approximately 5%-7% of pre- menopausal females encounter malignancy whereas 25-30% of postmenopausal females has malignant ovarian lesions

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The diagnosis of ovarian cancer below 40 years of age have more chances of recovery than older than 40 years of age[8].. The present study was conducted to assess histopathological analysis of ovarian lesions

Materials & Methods

The present study comprised of 96 ovarian masses specimens obtained from gynaecological department. The study protocol was approved from institutional ethical committee.

After obtaining specimens, they were grossed and tissue fixation was performed. 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 labelling, all slides were studied and classified based on WHO guidelines. Results of the study was compiled and assessed statistically. P value less than 0.05 was considered significant.

Results

Table I Age wise distribution of lesions

Age group (years)	Number	P value
21-30 years	16	0.05
31-40 years	36	
41-50 years	34	
51-60 years	10	

Table I, graph I shows that age group 21-30 years comprise of 16, 31-40 years 36, 41-50 years 34 and 51-60 years 10 lesions. A significant difference was observed (P< 0.05).

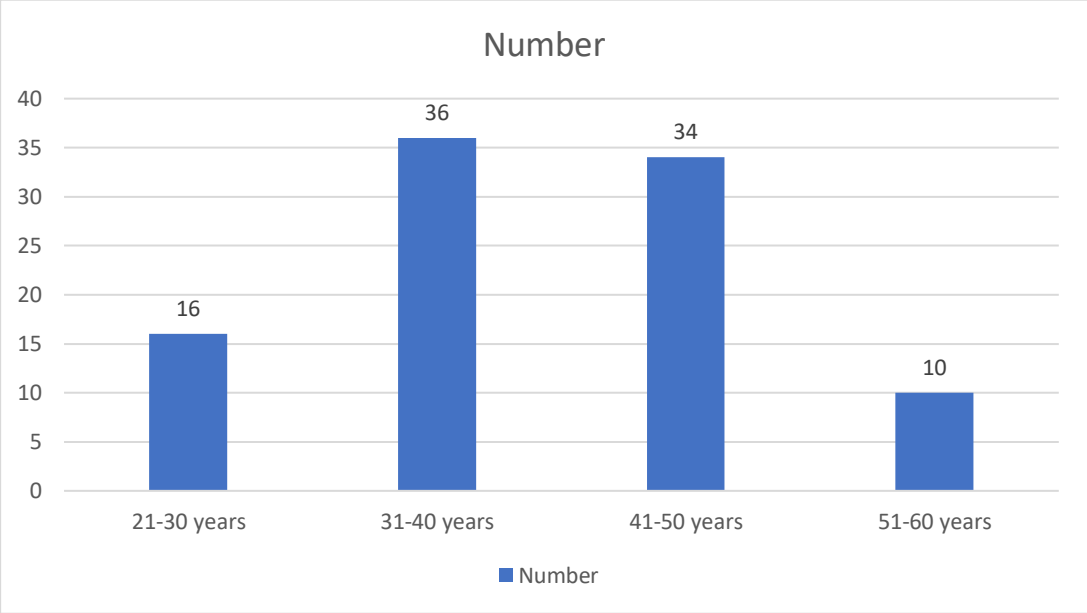

Figure I Age wise distribution of lesions

Table II Histopathological diagnosis of lesions

Diagnosis	Number	P value
Non- neoplastic	46	0.04
Benign neoplastic	40	
Malignant neoplastic	10	

Table II shows that there were 46 non- neoplastic lesions, 40 benign neoplastic and 10 malignant neoplastic lesions. The difference was significant (P< 0.05).

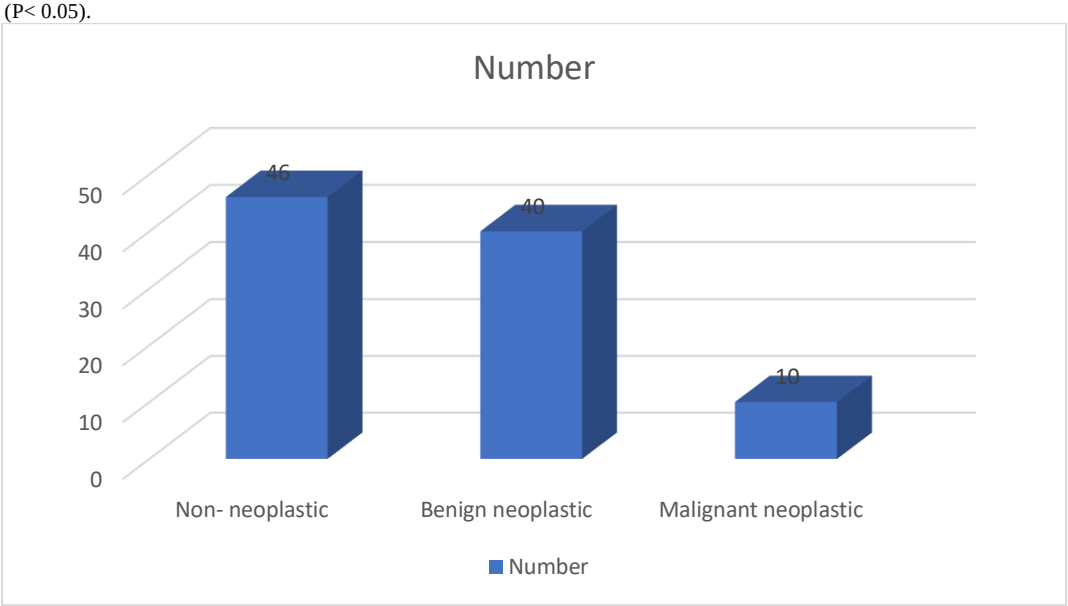

Figure II Histopathological diagnosis of lesions

Table III Non-neoplastic lesions of ovaries

Non-neoplastic lesions	Number	P value
Follicular cyst	20	0.01
Inclusion cyst	4	
Corpus luteum cyst	12	
Ectopic pregnancy	3	
Twisted cyst	2	
Endometriosis	2	
Edema of ovary	3	

Table III shows that common non- neoplastic lesions were follicular cyst in 20, inclusion cyst in 4, corpus luteum cyst in 12, ectopic pregnancy in 3, twisted cyst in 2, endometriosis in 2 and edema of ovary in 3 cases. The difference found to be significant (P< 0.05).

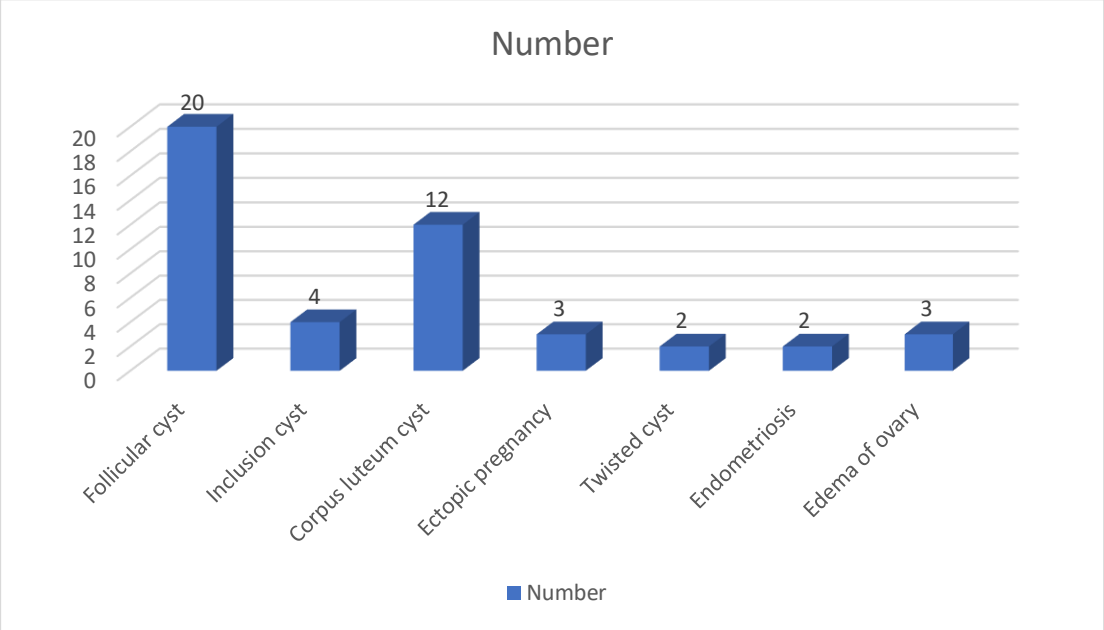

Figure III Non-neoplastic lesions of ovaries

Table IV Benign neoplastic lesions of ovaries

Benign neoplastic lesions	Number	P value
Fibroma	20	<0.05
Fibrothecoma	5	
Mucinous cystadenoma	8	
Serous cystadenoma	3	
Mature cystic teratoma	2	
Serous cystadenofibroma	2	

Table IV shows that common benign neoplastic lesions comprised of fibroma in 20, fibrothecoma in 5, mucinous cystadenoma in 8, serous cystadenoma in 3, mature cystic teratoma in 2 and serous cystadenofibroma in 2 cases. The difference found to be significant (P< 0.05).

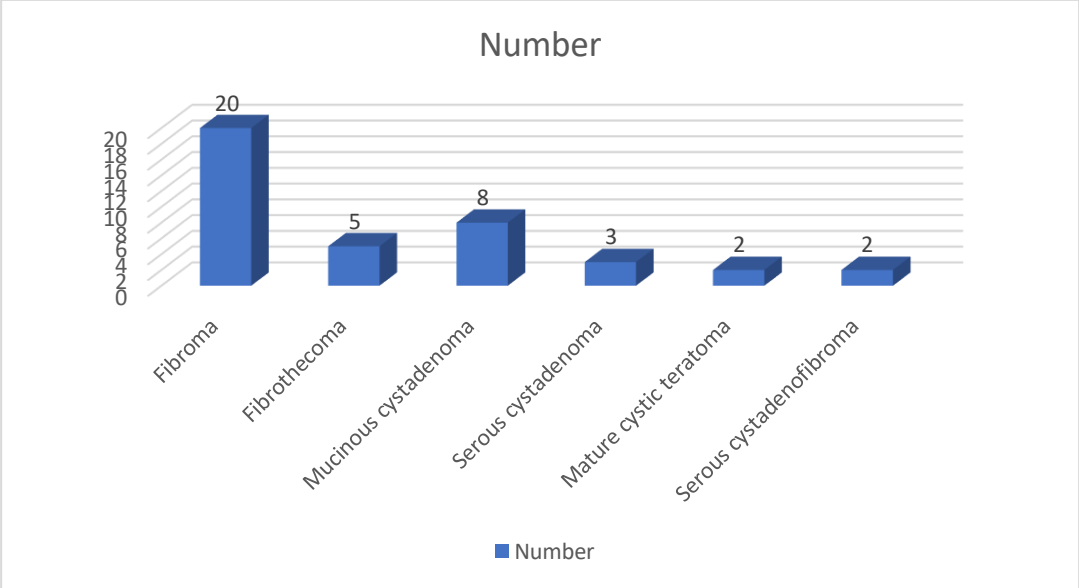

Figure IV Benign neoplastic lesions of ovaries

Table V Malignant neoplastic lesions of ovaries

Malignant neoplastic lesions	Number	P value
Granulosa cell tumor	3	0.91
Borderline mucinous cystadenoma	2	
Papillary serous cystadenoma	3	
Mixed sex cord stromal tumor	2	

Table V shows that common malignant neoplastic lesions were granulosa cell tumor in 3, borderline mucinous cystadenoma in 2, papillary serous cystadenoma in 3 and mixed sex cord stromal tumor in 2 cases. The difference was non- significant (P> 0.05).

Discussion

Ovarian cancer is the 2nd major cause of mortality among all gynecological cancers[9]. Both neoplastic and non-neoplastic lesions of ovary pose similar clinical feature, hence the diagnosis is difficult[10]. Ultrasonography (USG) shows presence of a mass or cystic lesion therefore, are surgically removed prophylactically in routine oophorectomies and hysterectomies[11]. We assessed histopathological analysis of ovarian lesions.

Our study found that age group 21-30 years comprise of 16, 31-40 years 36, 41-50 years 34 and 51-60 years 10 lesions. There were 46 non- neoplastic lesions, 40 benign neoplastic and 10 malignant neoplastic lesions. Prakash et al[12] conducted a study on 229 ovarian lesions and found that there were 44.0% of non-neoplastic lesions and the most common lesions found to be follicular cysts in 45.5%. There were 2.0% malignant lesions. In about 62.5%, serous cystadenoma of the ovary (neoplastic lesion) was diagnosed. 53.2% of patients' samples were in age group of 20-39 years. 90.8% of the lesions were unilateral.

We observed that common non- neoplastic lesions were follicular cyst in 20, inclusion cyst in 4, corpus luteum cyst in 12, ectopic pregnancy in 3, twisted cyst in 2, endometriosis in 2 and edema of ovary in 3 cases. Common beingn neoplastic lesions comprised of fibroma in 20, fibrothecoma in 5, mucinous cystadenoma in 8, serous cystadenoma in 3, mature cystic teratoma in 2 and serous cystadenofibroma in 2 cases. A study by Kanthikar et al[13] showed out of 145 ovarian lesion, 75 being neoplastic and 70 were neoplastic. Solitary follicular cysts were seen in 74.66% (56) were the most common non-neoplastic lesion. Corpus luteal cysts was seen in 20% (15). Among the 70 neoplastic ovarian lesions 55(78.57%) cases were benign, 1(1.42%) case was at borderline and 14 (20%) cases were malignant. In benign ovarian neoplasm, most commonly seen lesion were serous cystadenoma followed by benign cystic teratoma. In malignant cases, maximum were of serous cystadenocarcinoma, followed by mucinous cystadenocarcinoma and metastatic tumours.

Mansoor et al[14] in their study revealed that 86.7% ovarian lesions were benign tumors and 13.3% were malignant. There were 63.7% of total surface epithelial tumors, 44% had benign serous tumors followed by mucinous tumors in 9.6%, 2.8% had serous tadenocarcinoma, mucinous cystadenocarcinoma in 1.8%, 1.4% had serous cystadenoma borderline and endometrioid adenocarcinoma in 1.4%. The least frequent tumors are mucinous cystadenoma borderline and poorly differentiated carcinoma at 0.9% each. Tumors derived from sex cord stromal tissue as benign fibroma and thecoma comprise 5%, while malignant tumors are granulosa cell tumor (1.4%) and androblast ma moderately differentiated (0.5%). Tumors derived from germ cell as benign cystic teratoma are 26.6% while malignant tumors were dysgerminoma (0.9%) and malignant teratoma (0.5%).

Kreuzer GF et al[15] in their study found that out of 203 ovarian lesions, 82 (40.39%) were non-neoplastic lesions. Martinez-Onsurbe P et al[16] conducted a study on 132 ovarian lesions and found that 55 (41.67%) were non-neoplastic lesions.

Conclusion

Authors found that common non- neoplastic lesions were follicular cyst, corpus luteum cyst and common benign neoplastic lesions comprised of fibroma and mucinous cystadenoma. Common malignant neoplastic lesions were granulosa cell tumor and papillary serous cystadenoma.

Conflict of Interest: Nil Source of support: Nil

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