ORIGINAL RESEARCH

Assessment of histopathology of ovarian lesions

[1]Dr. Shikha Joshi, [2]Dr. Israr Ahmad

[1]Assistant Professor, Department of Obs & Gynae, Gold Field Institute of Medical Sciences & Research, Faridabad, Haryana, India
[2]Assistant Professor, Department of Pathology, Gold Field Institute of Medical Sciences & Research, Faridabad, Haryana, India

Corresponding Author
Dr. Israr Ahmad
Assistant Professor, Department of Pathology, Gold Field Institute of Medical Sciences & Research, Faridabad, Haryana, India

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ABSTRACT
Background: It is certain that ovarian cancer ranks seventh overall among female cancer deaths, and that it accounts for up to 8.7% of cancer deaths in India across various regions. The present study was conducted to assess the histopathology of ovarian lesions. **Materials & Methods:**65 ovarian mass specimens that were received from the gynecological department were obtained, grossed, and tissue fixation was carried out. After being cut, tissue slices were treated. Standard Hematoxylin and Eosin stains were applied to glass slides containing microsections that had a thickness of 5 microns. **Results:** The age group 21-30 years comprises of 8, 31-40 years 22, 41-50 years had 21, and 51-60 years had 14 lesions. A significant difference was observed (P< 0.05). Benign neoplastic lesions were seen in 15 patients such as fibroma in 7, fibrothecoma in 3, mucinous cystadenoma in 2 and serous cystadenoma in 3 patients. Malignant lesions were seen in 10 patients such as neoplastic in 10, granulosa cell tumor in 6, borderline mucinous cystadenoma in 2 and papillary serous cystadenoma in 2 patients. Non- neoplastic lesions in 40 cases such as follicular cystin 22, inclusion cyst in 6, corpus luteum cyst in 10 and ectopic pregnancy in 2 patients. The difference was significant (P< 0.05). **Conclusion:** Follicle cysts, corpus luteum cysts, and frequent benign neoplastic lesions, and fibromas and mucinous cystadenoma, were prevalent non-neoplastic lesions. Papillary serous cystadenoma and granulosa cell tumor were common malignant neoplastic lesions.
Keywords: ovary, mucinous cystadenoma, fibrothecoma

INTRODUCTION

The female ovary is a reproductive organ. Two ovaries are present. Both totipotent sex cells and multipotent mesenchymal cells make up this population. Once a neoplastic state is reached, germ cells, sex cord stromal cells, and mullerian epithelium can result in any type of tumor. It presents a significant obstacle for gynecological oncologists.[1,2] In females, ovarian lesions, both benign and malignant, are prevalent. Therefore, thorough assessment and categorization are crucial for effective lesion treatment.[3]

In the ovaries, benign or functional cysts and tumors are frequently seen. It is certain that ovarian cancer ranks seventh overall among female cancer deaths, and that it accounts for up to 8.7% of cancer deaths in India across various regions. It is comparatively typical during the third decade of life. Because minor symptoms appear later in the disease process, these become noticeable due to its advanced size.[4] Ovarian lesions appear with a variety of histological findings. Chemotherapy and surgery are therefore less beneficial for these people. Invasive epithelial ovarian cancer typically manifests in women between the ages of 50 and 60. Research indicates that while 25–30% of postmenopausal women have malignant ovarian lesions, only 5%–7% of premenopausal women experience cancer.[5,6] The present study was conducted to assess the histopathology of ovarian lesions.

MATERIALS & METHODS

The present study consisted of 65 ovarian mass specimens that were received from the gynecological department. All gave their written consent to participate in the study.

Data such as name, age, etc. was recorded. Specimens were obtained, grossed, and tissue fixation was carried out. After being cut, tissue slices were treated. Standard Hematoxylin and Eosin stains were applied to glass slides containing microsections that had a thickness of 5 microns. Following mounting and labeling, every slide was examined and categorized

per WHO standards. Data thus obtained were subjected to statistical analysis. P value < 0.05 was considered significant.

RESULTS

Table I Age-wise distribution

Age group (years)	Number	P value
21-30 years	8	<0.05
31-40 years	22	
41-50 years	21	
51-60 years	14	

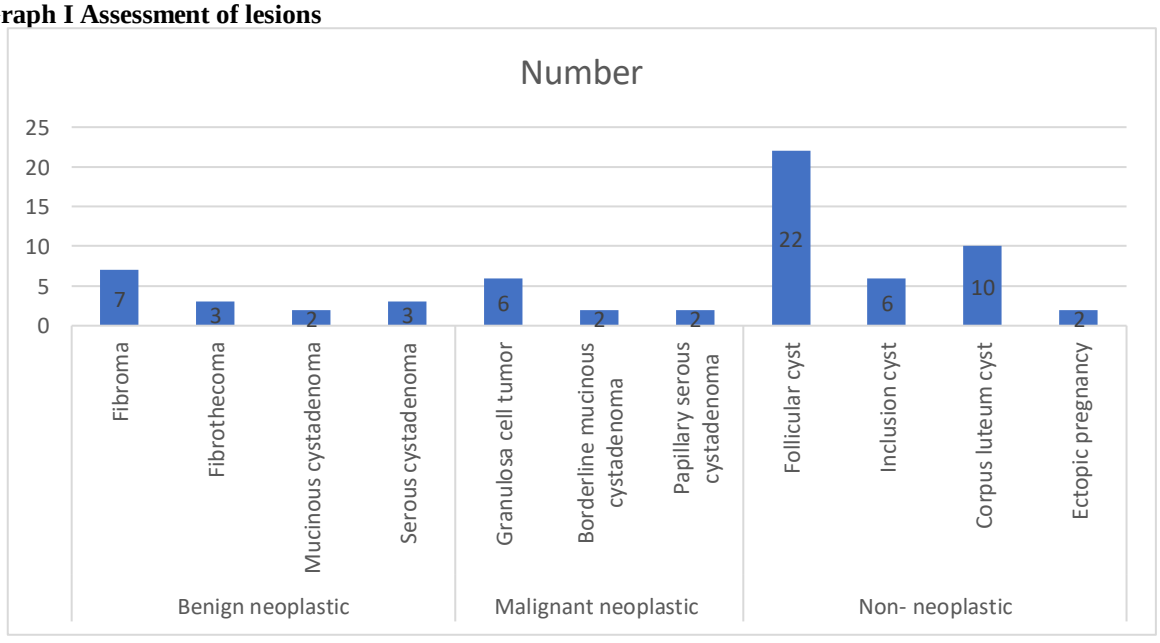
Table I shows that the age group 21-30 years comprises of 8, 31-40 years 22, 41-50 years had 21, and 51-60 years had 14 lesions. A significant difference was observed (P< 0.05).

Table II Assessment of lesions

Parameters	Variables	Number	P value
Benign neoplastic (15)	Fibroma	7	0.04
	Fibrothecoma	3	
	Mucinous cystadenoma	2	
	Serous cystadenoma	3	
Malignant neoplastic (10)	Granulosa cell tumor	6	0.05
	Borderline mucinous cystadenoma	2	
	Papillary serous cystadenoma	2	
Non- neoplastic (40)	Follicular cyst	22	0.01
	Inclusion cyst	6	
	Corpus luteum cyst	10	
	Ectopic pregnancy	2	

Table II, graph I show that benign neoplastic lesions were seen in 15 patients such as fibroma in 7, fibrothecoma in 3, mucinous cystadenoma in 2 and serous cystadenoma in 3 patients. Malignant lesions were seen in 10 patients such as neoplastic in 10, granulosa cell tumor in 6, borderline mucinous cystadenoma in 2 and papillary serous cystadenoma in 2 patients. Non- neoplastic lesions in 40 cases such as follicular cyst in 22, inclusion cyst in 6, corpus luteum cyst in 10 and ectopic pregnancy in 2 patients. The difference was significant (P< 0.05).

Graph I Assessment of lesions



DISCUSSION

The second leading cause of death from all gynecological cancers is ovarian cancer. The diagnosis is challenging because ovarian lesions that are not cancerous and those that are offer comparable clinical features.[7,8] When a tumor or cystic lesion is detected by ultrasonography (USG), it is surgically removed as a preventative measure during routine oophorectomies and hysterectomies.[9,10]The present

study was conducted to assess the histopathology of ovarian lesions.

We found that the age group 21-30 years comprises of 8, 31-40 years 22, 41-50 years had 21, and 51-60 years had 14 lesions. Mondal et al[11]found that most of the benign tumors occurred between 20 and 40 years of age, while the malignant lesions presented commonly between 41 and 50 years. The most common histological types were serous cystadenoma (29.9%), followed by mature teratoma (15.9%) and mucinous cystadenoma (11.1%). A major proportion of malignant ovarian tumors was contributed by surface epithelial tumors (60.9%). Serous cystadenocarcinoma was the predominant malignant tumor (11.3%). Metastatic tumors were found to involve the bilateral ovaries in 72%, while 49.5% of malignant serous tumors were bilateral. Borderline serous tumors showed bilateral involvement more commonly (27.4%) than borderline mucinous tumors (15.7%). Most of the malignant tumors presented as stage III (60%) or stage II (20%) disease. The overall survival rate was 85% for stage I tumors, 65% for stage II, 30% for stage III and 15.5% for stage IV tumors.

We found that benign neoplastic lesions were seen in 15 patients such as fibroma in 7, fibrothecoma in 3, mucinous cystadenoma in 2, and serous cystadenoma in 3 patients. Malignant lesions were seen in 10 patients such as neoplastic in 10, granulosa cell tumor in 6, borderline mucinous cystadenoma in 2, and papillary serous cystadenoma in 2 patients. Non-neoplastic lesions in 40 cases such as follicular cyst in 22, inclusion cyst in 6, corpus luteum cyst in 10, and ectopic pregnancy in 2 patients. Kreuzer et al[12] found that no single method was able to offer definitive diagnoses distinguishing between neoplastic and nonneoplastic cysts. All methods were subject to a relatively high rate of false negative findings indicating a neoplasm. To some extent, however, they were complementary. Within the three-parameter scheme, hormonal analysis yielded the best results. Cytology had drawbacks with simple serous cystomas due to the scanty and degenerated cell material. However, in proliferating cases, carcinomas and mucinous cystomas, cytology renders nearly no false negative diagnoses.

Shoail I et al[13] found that all the patients who had ovarian cysts larger than five centimeters in size diagnosed on ultrasonography and planned for surgery were included. The overall incidence of ovarian tumors was 7.1% and 5.4% with a rate of malignancy 18% and 5.4% in period 1 and 2 respectively which was statistically non-significant ($p>0.05$). The most common malignant tumour was serous cyst adenocarcinoma during both study periods. The most common benign tumor was simple follicular cyst 25% during study period one and serous cyst adenoma 23% during period 2. The frequency and patterns of ovarian tumors has remained unchanged between 2002 and 2009.

The limitation of the study is the small sample size.

CONCLUSION

Authors found that follicle cysts, corpus luteum cysts, and frequent benign neoplastic lesions, and fibromas and mucinous cystadenoma, were prevalent non-neoplastic lesions. Papillary serous cystadenoma and granulosa cell tumors were common malignant neoplastic lesions.

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