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Histomorphological study of neoplastic ovarian lesions in Jodhpur region

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Abstract

Introduction: Ovary is an important organ as it is concerned with the reproduction of progeny. Ovarian neoplasms are common tumors in females comprising 23% of all gynecological tumors and are the most common gynecological malignancy.

Methods: A total of 242 cases taken, inclusive of retrospective and prospective cases were studied. For the retrospective study, tumors of ovary registered in the histopathological registers in Department of Pathology were taken. For prospective study, specimens of ovary received from Hospitals of Dr. S.N. Medical College Jodhpur.

Results: Out of 242 cases of ovarian tumors 203 were benign, 5 were borderline tumors and 34 were malignant tumors.

Conclusions: It is concluded from this study that on morphological grounds, tumors originating from surface epithelium are the commonest variant. Majority of the ovarian tumors are benign.

Keywords: ovarian tumor, gross features, microscopic features.

1. Introduction

Ovary is an important organ as it is concerned with the reproduction of progeny. Ovarian neoplasms are common tumors in females comprising 23% of all gynecological tumors and are the most common gynecological malignancy^[1]. Worldwide, ovarian cancer is the sixth most common cancer in women^[2]. It contains sex cells which are potential and mesenchymal cells which are pluripotential and hence when a neoplasm arise –almost any type of tumor can occur^[3, 4]. Incidence rate of tumors of ovary is equal to the tumors of corpus uteri and cervix in advanced country and constitutes 30% of all cancers of female genital system^[5]. Ovarian neoplasms remain asymptomatic until massive ovarian enlargement causes compression of pelvic structures, ascites, abdominal distension or distant metastasis^[6]. Ovary not only gives rise to a wide variety of malignances but is also site for metastasis from many other organs. Ovarian neoplasia is notorious for the wide variation in degree of histologic differentiation than can be found in different areas of the same neoplasm. The main aim lies in distinguishing ovarian neoplasms from the wide spectrum of nonneoplastic lesions.

2. Material and Methods

The present study was conducted in Dr. S. N. Medical College, Jodhpur. On receiving the specimen, gross features like size, shape, colour, external appearance, consistency, appearance on cut section and contents were noted. Then the tumors were cut at various levels depending on the individual cases and they were allowed to fix in 10% buffered formalin for 24-28 hours. The tissue is then processed which consists of following steps:

1. Grossing,
2. Processing,
3. Embedding in paraffin,
4. Section cutting,
5. Staining (H & E),

After fixation multiple bits were taken from representative areas of the tumor and the accompanying tissue. Special attention was given to solid areas adjacent to the ovarian surface and papillary projections. They were processed for histopathological examination and paraffin blocks were made. The blocks were cut at 3-5µ thickness and stained with haematoxylin and eosin.

3. Result

The surface epithelial tumors were the commonest tumors. The commonest epithelial tumor was serous tumor. Commonest serous tumor was serous cystadenoma. The commonest mucinous tumor was mucinous cystadenoma. The commonest malignant tumor was papillary serous cystadenocarcinoma. The commonest germ cell tumor was benign cystic teratoma.

Table 1: Consistency of Ovarian Tumors

Type	No. of cases	Percentage
Cystic	187	77.27%
Mixed	46	19.01%
Solid	9	3.72%
Total	242	

Table-1 shows majority of the ovarian tumors were cystic 77.27% with 19.01% cases showing both areas of cystic and solid, with 3.72% cases were purely solid.

Table 2: Distribution of Ovarian Tumors

Type of tumors	No. of cases	Percentage
Benign tumor	203	83.88%
Borderline tumor	5	2.07%
Malignant tumor	34	14.05%
Total	242	

Table 2 shows distribution of ovarian tumors as benign, borderline and malignant. Out of 242 cases 203 were benign, 5 were borderline tumors and 34 were malignant tumors.

Table 3: Distribution of Ovarian Tumors

	Type of tumor	No. of cases	Percentage
1	Surface epithelial tumors	146	60.33%
2	Sex-cord stromal tumors	13	5.37%
3	Germ cell tumors	82	33.88%
4.	Secondary tumor	1	0.42%
	Total	242	

Table 3 shows distribution of ovarian Tumors. The surface epithelial tumors were the commonest tumors accounting for 60.33% cases, germ cell tumors were 33.88% cases and sex cord stromal tumors formed 5.37% cases and Secondary tumor 0.42% cases.

Table 4: Distribution of Benign Ovarian Tumors

Type of tumor	No. of cases	Percentage
Benign tumor		
Serous cystadenoma	50	24.63%
Papillary serous cystadenoma	3	1.48%
Serous	19	9.36%
Mucinous cystadenoma	47	23.15%
Mucinous cystadenofibroma	3	1.48%
Fibroma	2	0.99%
Thecoma Thecoma	1	0.49%
Benign cystic teratoma	78	38.42%
Total	203	

Table 5: Distribution of Borderline Ovarian Tumors

Borderline	Malignant tumor	No. of cases Percentage
Serous borderline tumor	1	20%
Mucinous borderline tumor	4	80%

Table 6: Distribution of Malignant Ovarian Tumors

Malignant tumor	No. of cases	Percentage
Papillary serous cystadenocarcinoma	14	41.18%
Mucinous cystadenocarcinoma	5	14.70%
Granulosa cell tumor	9	26.48%
Dysgerminoma	3	8.82%
Malignant teratoma	1	2.94%
Mixed germ cell tumor	1	2.94%
Secondary Tumor	1	2.94%
Total	34	

4. Discussion and conclusions

In the present study serous tumors were the commonest tumors encountered in the study accounting for 59.5% which is higher percentage than 46% reported by Krigman *et al.* [7]. 59 cases of mucinous tumor were encountered and of these 84.74% were benign, 6.78% of borderline malignancy and 8.48% malignant in the present study. Krigman H *et al* [7] observed corresponding percentage 81%, 14% and 5%. Granulosa cell tumor was the commonest sex-cord stromal tumors seen. Benign cystic teratoma was the commonest germ cell tumor found in the present study constituting 32.64% of all the tumors. This finding is higher than those observed by Sahn L *et al*, Gupta SC *et al* [8] and Couto F *et al* [9]. Dysgerminoma was the commonest type of malignant germ cell tumor.

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