

Original Research Article


A 2 year study on and comparison of ovarian neoplasms

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Abstract

Ovarian tumors are important because of increased morbidity and mortality associated with them. A total number of 157 specimens of ovarian neoplasms were studied in the department of pathology, Gandhi Medical College for a period of 2 years, i.e. June 2014 to May 2016. In our study, majority of the ovarian neoplasms were classified as benign tumors 101 (64.3%) followed by borderline neoplasms 44 (28.2%), and malignant tumors were 12 in number (7.6%). Out of these surface epithelial tumors were the commonest variety constituting 128 (81.5%), followed by germ cell tumors - 24 (15.28%). A relatively high no. of malignancies was observed in the study.

Key words

Ovarian neoplasms, Surface epithelial tumors, Malignancy.

Introduction

The ovary presents a particularly difficult challenge to the surgical pathologist [1]. It is the major endocrine gland, the source of female fertility and at the same time the origin of many of the most complex as well as lethal neoplasms [2].

Ovarian tumors are common forms of neoplasms in women, constitutes about 30% of all female genital cancers [1]. Ovarian carcinoma is the

fourth most common female cancer and fourth leading cause of death among cancer deaths in females [3-5]. These tumors attain a larger size, escape early detection, because of their anatomical location. Apart from the primary neoplasms, the ovary is the favourite site to get metastatic deposits from other abdominal cancers [2]. Serous tumors make up about one fourth of all ovarian tumors. 30 – 50% are bilateral.

Gross findings

Serous tumors are better differentiated tumors consisting of cystic masses, usually unilocular, containing a clear but sometimes viscous fluid. Papillary formations are often present. Histopathologically cuboidal to columnar cells are seen lining the wall of the cyst and papillae in the better differentiated tumors. Psammoma bodies are often seen in 30% of the lesions.

Mucinous tumors constitute 5 – 15% of all the tumors, minimal bilaterality (10-29%). The size is usually large and containing viscous fluid. Histopathologically columnar cells are lining the walls of the cyst and containing mucinous material.

Endometrial tumors: They constitute 10%, bilaterality varies from 15 – 30% size moderate and sometimes vary large, histopathologically lined with cuboidal to columnar epithelial cells containing extensive haemorrhage.

Germ cell tumors are 15 – 20% of all ovarian neoplasms. 90% of them are benign, e.g., dysgerminoma, embryonal carcinoma, yolk sac tumor, chorio carcinoma and teratoma.

Materials and methods

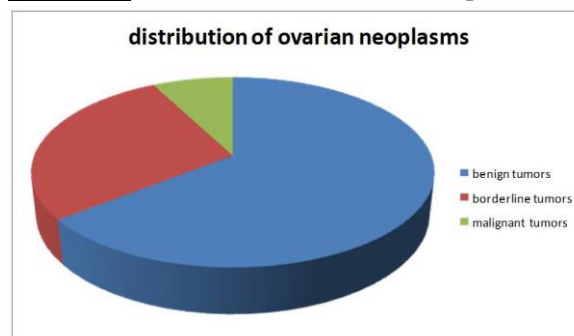
This was a prospective study of 2 years from June 2014 to May 2016, in the Pathology Department of Gandhi Hospital. In this study, the specimens are received from OBG department of the same institute. The data of the patient, including age, clinical presentation, size of the tumor, bilaterality, provisional diagnosis and operative findings were noted and correlated with the Histopathological examination. The specimens were processed and stained with haematoxylin and eosin stains and studied under the microscope.

Results

A total number of 157 specimens of ovary were received, among them benign were 101 (64.3%) followed by borderline neoplasms number 44 (28.2%), malignant tumors were 12 (7.6%). Age group ranged from 10 years to 70 years. Majority

(107) belonged to the age group of 21-40 years, followed by 23 specimens belonged to 41-60 years age group. 20% of all neoplasms are bilateral. Majority are benign tumors (**Figure – 1, Table – 1, 2**).

Figure - 1: Distribution of ovarian neoplasms.



In our study, out of 157 specimens of ovary 101 (64.3%) were benign, followed by borderline neoplasms no. 44 (28.2%), malignant tumors are 12 (7.6%). There are more comparative studies which also show the similar results in case of benign tumors, e.g., Gangadhar Swamy, et al. [1], Ahmed, et al. [3], Pilli, et al. [4], Gupta, et al. [5]. But they differ in the percentage of malignant tumors. In their study the number of malignant tumors outnumbered the borderline tumors, where as in our study malignant tumors are less in comparison to the borderline tumors. Among the Histopathological patterns the commonest category of benign tumors are simple serous cysts (25), simple serous cystadenoma (18).

Thanikasalam, et al. [6], also showed the same results among the Indians, but in their study benign teratomas outnumbered all the tumors in Malasia and China. In the present study Serous epithelial tumors were found to be more common (101), then mucinous (27), similar reports were reported by Prabhakar, et al. [7], Some molecular and histological evidences suggest that mucinous epithelial ovarian cancers develop through borderline tumors to invasive cancers, which suggest the potential preventability of borderline and invasive mucinous ovarian cancers by surgical excision [8].

Table - 1: Distribution of ovarian neoplasms according to histological types.

Type	Number	Percentage
Surface epithelial tumors	128	81.52
a. Serous tumors	101	64.3
b. Mucinous tumors	27	17.2
c. Mixed epithelial tumors	Nil	
Germ cell tumors	24	15.28
Sex cord stromal tumors	2	1.27
Seondaries		
Total	157	

Table - 2: Histopathological comparison of all tumors.

Type of tumor	Benign	Borderline	Malignant
Dermoid cyst	9	-	-
Simple serous cyst	25	24	-
Sero mucinous cyst	01	-	-
Serous cystadenoma	29	15	02
Serous papillary cystadenoma	05	06	-
Mucinous cystadenoma	14	07	05
Mucinous papillary cystadenoma	01	-	-
Chocolate cyst	01	01	-
Teratoma	09	09	02
Granulose cell tumor	03	03	-
Mixed germ cell tumor	-	-	03
Fibroma	01	01	-
Dysgerminoma	03	03	-
Fibrothecoma	01	01	-
Total	101	44	12

The above study may help in recognizing the pattern of ovarian tumors prevalence. In our study the malignant tumors were mucinous cystadenoma carcinomas 4 in number. Papillary mucinous cystadeno carcinomas 3 in number, papillary serous cystadeno carcinomas were 2 in number. Malignant mixed germ cell tumors were 3 in number. In all the above the malignant tumors arising denovo, there was no transformation zone observed [8].

Conclusions

The commonest variant which we observed along with the other comparative studies was benign surface epithelial tumors. But malignant tumors are also arising from the surface epithelium of the ovary, though they are less in

number. Therefore early detection and risk factors for the development of malignant ovarian tumors must be identified to prevent morbidity and mortality of the patients.

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