European Journal of Molecular & Clinical Medicine

ISSN 2515-8260 Volume 9, Issue 3, Winter 2022

ORIGINAL RESEARCH

Assessment of gross and histological patterns of ovarian tumors

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ABSTRACT

Background:Ovarian tumors include a complex wide spectrum of neoplasm involving a variety of histological diagnosis ranging from epithelial tissues, connective tissue, specialized hormone secreting to germinal and embroyonal cells. The present study was conducted to assess gross and histological patterns of ovarian tumors.

Materials & Methods:74 ovarian tumours were obtained in general pathology department. Paraffin blocks were prepared, cut and stained with routine Hematoxylin and Eosin stain. Special stains like reticulin, PAS etc., were used wherever required.

Results: Size<5 cm was seen among 28 and >5 cm in 46. Laterality was unilateral in 50 and bilateral in 24. Cystic/solid was unilocularcystin 30, multilocular cyst in 24 and solid and cystic in 20. The difference was significant (P< 0.05). Germ cell tumors were 25, surface epithelial tumors in 44 and sex cord stromal tumors in 5 cases. The difference was significant (P< 0.05). Serous tumours were benign seen in 18, malignant in 8 and borderline in 4. Mucinous tumours were benign seen in 6, malignant in 4 and borderlinein 4 cases. The difference was significant (P< 0.05).

Conclusion: Epithelial tumors are the commonest variety of ovarian tumors.

Key words:Epithelial tumors, embroyonal cells, ovarian tumors

INTRODUCTION

Ovarian tumors include a complex wide spectrum of neoplasm involving a variety of histological diagnosis ranging from epithelial tissues, connective tissues, connective tissue, specialized hormone secreting to germinal and embroyonal cells.[1]It is one of the most treatable tumors because majorities are sensitive to anticancer therapies. It accounts for 6% of total cancers in female and is the 5th most common form of cancer related death in females, ranked behind neoplasm of the lung, breast, intestine and uterus.[2]

Detectionof various histological patterns of ovarian tumors are very important in diagnosis, prognosis as well as treatment of ovarian tumors.[3] Prognosis of the tumors can also be predicted from the degree of differentiation of the tumors. Primary tumors are classified into surface epithelial tumors, germ cell tumors, sex cord stromal tumors, and miscellaneous tumors. Of the three main types, surface epithelial tumors are the most common.[4]

The risk of developing ovarian cancer is highest around the age of 55. The benign tumors mostly occur in young women between the ages of 20 and 45 whereas the malignant tumors are common in older women between ages of 40 and 65. The incidence is high in postmenopausal women, unmarried women or in married women with low parity. Oral contraceptives and tubal ligation decreases the risk of developing ovarian cancer. Only 10-

15% is discovered in pre- menopausal women.[5]The present study was conducted to assess gross and histological patterns of ovarian tumors.

MATERIALS & METHODS

The present study comprised of 74ovarian tumours obtained in general pathology department from November 2016 to November 2021.

Features such as clinical symptoms, examination findings, ultrasonographic findings, tumor marker levels were recorded.Sections from uterus, cervix, fallopian tubes, omentum and lymph nodes were taken. Paraffin blocks were prepared, cut and stained with routine Hematoxylin and Eosin stain. Special stains like reticulin, PAS etc., were used wherever required. Data thus obtained were subjected to statistical analysis. P value < 0.05 was considered significant.

RESULTS

Table I Gross findings of ovarian tumours

Parameters	Variables	Number	P value
Size	<5 cm	28	0.05
	>5 cm	46	
Laterality	Unilateral	50	0.02
	bilateral	24	
Cystic/solid	Unilocular cyst	30	0.91
	Multilocular cyst	24	
	Solid and cystic	20	

Table I, graph I shows thatsize<5 cm was seen among 28 and >5 cm in 46. Laterality was unilateral in 50 and bilateral in 24. Cystic/solid was unilocular cyst in 30, multilocular cyst in 24 and solid and cystic in 20. The difference was significant (P< 0.05).

Graph IGross findings of ovarian tumours

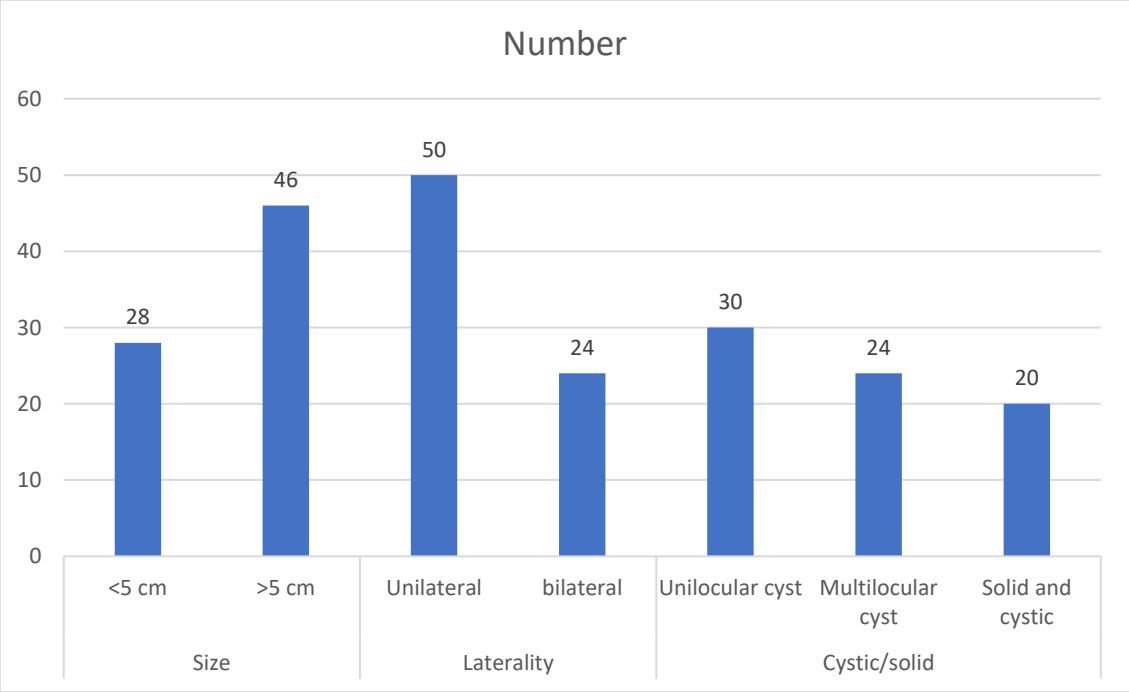

Table II Distribution of ovarian neoplasms based on histological type

Type	Number	P value
Germ cell tumors	25	0.01
Surface epithelial tumors	44	
Sex cord stromal tumors	5	

Table II, graph I shows that germ cell tumors were 25, surface epithelial tumors in 44 and sex cord stromal tumors in 5 cases. The difference was significant (P< 0.05).

Graph IDistribution of ovarian neoplasms based on histological type

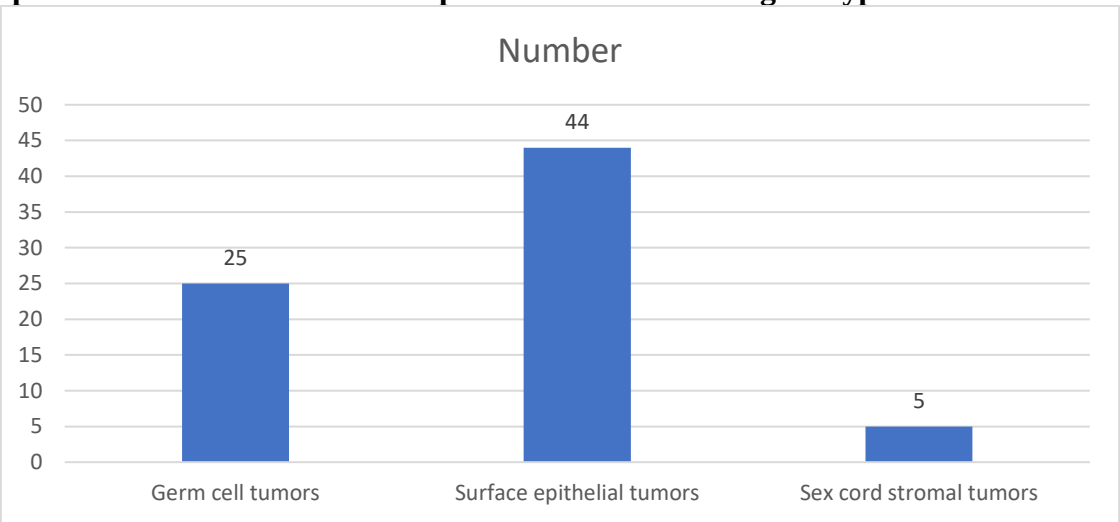

Table III Type of surface epithelial tumours

Type of tumour	Variables	Number	P value
Serous tumours	Benign	18	0.01
	Malignant	8	
	borderline	4	
Mucinous tumours	Benign	6	0.91
	Malignant	4	
	borderline	4	

Table III shows that serous tumours were benign seen in 18, malignant in 8 and borderline in 4. Mucinous tumours were benign seen in 6, malignant in 4 and borderline in 4 cases. The difference was significant (P< 0.05).

DISCUSSION

Ovarian masses consist of functional and pathological lesions. Functional lesions are mainly cystic and are the most commonly encountered lesions of this retroperitoneal organ. Functional cyst consist of mainly follicular and corpus luteal cysts. Majority of the functional cysts are simple cysts, while minority consists of complex cystic architecture.[6] Studies have shown that 90% of these cysts are resolved spontaneously. These cyst are frequently seen in young female in their 2nd decades due to failure of ovulation.However, fewer cases could also be seen in perimenopausal and postmenopausal women. Pathological lesions are predominantly tumours which could be benign, borderline, and malignant.[7] Generally speaking, these tumours are rarer in childhood and adolescent age groups as studies have confirmed that only about 2% of ovarian tumours are seen in children.[8] Most benign lesions of the ovary occur in childbearing age groups and are often cystic, while malignant tumours

are more common in the elderly women.[9]The present study was conducted to assess gross and histological patterns of ovarian tumours.

We found that size<5 cm was seen among 28 and >5 cm in 46. Laterality was unilateral in 50 and bilateral in 24. Cystic/solid was unilocular cyst in 30, multilocular cyst in 24 and solid and cystic in 20. Pradhanet al[10] assessed the incidence, histopathological spectrum and clinical correlates of ovarian tumours. There were a total of 83 cases. Surface epithelial tumours emerged as the commonest variety accounting for 47%, followed by Germ cell tumours (45.8%). Sex – cord stromal tumours and metastatic tumours accounted 3.6% each. The age range was 10 – 86 years. Metastatic tumours involved younger age groups. Abdominal mass was the commonest clinical presentation followed by pain abdomen.

We found that germ cell tumours were 25, surface epithelial tumours in 44 and sex cord stromal tumours in 5 cases.Selvi et al[11]studied 83 cases of ovarian tumors received in formalin, were subjected to histopathological examination. Immunohistochemistry was used as and when required. In total, 83 ovarian tumour specimens were examined. Out of which 74 cases (62%) were benign,3 cases (2.5%) borderline and 6 cases (5%) were malignant. Most common histological type was surface epithelial tumours (76%) followed by germ cell tumours (18%). Epithelial tumours are the commonest variety of ovarian tumours. Our study is focused on incidence, bilaterality and age distribution of ovarian neoplasms. Spectrum of ovarian neoplasm is wide with harmless simple cystic lesions and fatal aggressive malignant lesions.

We found that serous tumours were benign seen in 18, malignant in 8 and borderline in 4. Mucinous tumours were benign seen in 6, malignant in 4 and borderlinein 4 cases.Jhaet al[12]aimed to find out frequency of different histological types of ovarian tumours and their age distribution. One hundred and thirty- five of these tumours (83.9%) were benign and 16.1% (26/161) were malignant. Surface epithelial tumours were most common (52.2%) followed by germ cell tumours (42.2%). Mature cystic teratoma was commonest benign tumour (48.2%). Serous adenocarcinoma was commonest malignant tumour (46.2%). For all age groups, benign tumours were more common than malignant ones. Most ovarian tumours (47.2%) were seen between 21 -40 years whereas most malignant tumours (73.1%) were seen above 40 years. In 1st two decades, germ cell tumours were more common than other tumours.

CONCLUSION

Authors found that epithelial tumors are the commonest variety of ovarian tumors.

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