### Journal of Advanced Medical and Dental Sciences Research

@Society of Scientific Research and Studies

Journal home page:<u>www.jamdsr.com</u>

doi:10.21276/jamdsr

Index Copernicus value [ICV] =82.06

(e) ISSN Online: 2321-9599;

(p) ISSN Print: 2348-6805

# **Original Research**

## Gross and histological patterns of ovarian tumors

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#### ABSTRACT:

**Background:** Ovarian tumors encompass a broad range of neoplasms with a complex range of histological diagnoses, from germinal and embryonal cells to epithelial tissues, connective tissues, and specialized hormone secretion. The present study was conducted to assess gross and histological patterns of ovarian tumors. **Materials & Methods:** 87 ovarian tumours obtained in general pathology department. Sections were taken from the uterus, cervix, fallopian tubes, omentum, and lymph nodes; paraffin blocks were prepared, cut, and stained with standard Hematoxylin and Eosin stain; where necessary, special stains such as reticulin, PAS, etc. were used. **Results:** Laterality was unilateral in 50 and bilateral in 37 cases. Size was <5 cm seen among 28 and >5 cm in 59. It was unilocular cyst in 34, multilocular cyst in 26 and solid and cystic in 27 cases. The difference was significant (P< 0.05). Germ cell tumors were 26, surface epithelial tumors were 47 and sex cord stromal tumors were 14. The difference was significant (P< 0.05). **Conclusion:** Epithelial tumors are the commonest variety of ovarian tumors. In maximum cases, size was >5 cms.

Key words: Epithelial tumors, Germ cell tumors, ovarian tumors

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This article may be cited as: Kashiram ND, Jain RP. Gross and histological patterns of ovarian tumors. J Adv Med Dent Scie Res 2018;6(4):206-208.

#### **INTRODUCTION**

Ovarian tumors encompass a broad range of neoplasms with a complex range of histological diagnoses, from germinal and embryonal cells to epithelial tissues, connective tissues, and specialized hormone secretion.<sup>1</sup> Since most of them respond well to anticancer treatments, it is one of the most curable cancers. It makes up 6% of all malignancies in women and ranks fifth in terms of cancer-related deaths in women, after lung, breast, intestinal, and uterine neoplasms.<sup>2</sup> In order to diagnose, prognosticate, and treat ovarian cancers, it is critical to identify the different histological patterns of these tumors. The degree of tumor differentiation can also be used to predict the malignancies' prognosis.<sup>3</sup>

Surface epithelial tumors, germ cell tumors, sex cord stromal tumors, and miscellaneous tumors are the different categories of primary cancers. Surface epithelial tumors are the most prevalent of the three primary types. Around age 55 is when the risk of ovarian cancer is at its highest.<sup>4,5</sup> While malignant tumors are more common in older women between the ages of 40 and 65, benign tumors are more

common in young women between the ages of 20 and 45. Postmenopausal women, single women, and married women with poor parity have the highest incidence. The risk of ovarian cancer is reduced by tubal ligation and oral contraception. In women who are not yet menopausal, just 10–15% are found.<sup>6</sup>The present study was conducted to assess gross and histological patterns of ovarian tumors.

#### **MATERIALS & METHODS**

The present study comprised of 87 ovarian tumours obtained in general pathology department.

Features were noted, including clinical symptoms, examination results, ultrasonographic results, and tumor marker levels; sections were taken from the uterus, cervix, fallopian tubes, omentum, and lymph nodes; paraffin blocks were prepared, cut, and stained with standard Hematoxylin and Eosin stain; where necessary, special stains such as reticulin, PAS, etc. were used.Data thus obtained were subjected to statistical analysis. P value < 0.05 was considered significant.

#### **RESULTS** Table I Ovarian tumours- Gross findings

Parameters	Variables	Number	P value
Laterality	Unilateral	50	0.05
	bilateral	37	
Size	<5 cm	28	0.01
	>5 cm	59	
Cystic/solid	Unilocular cyst	34	0.85
	Multilocular cyst	26	
	Solid and cystic	27	

Table I shows that laterality was unilateral in 50 and bilateral in 37 cases. Sizewas <5 cm seen among 28 and >5 cm in 59. It was unilocular cystin 34, multilocular cyst in 26 and solid and cystic in 27 cases. The difference was significant (P< 0.05).

Table II Histological type of ovarian neoplasms

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Туре	Number	P value
Germ cell tumors	26	0.03
Surface epithelial tumors	47	
Sex cord stromal tumors	14	

Table II shows that germ cell tumors were 26, surface epithelial tumors were 47 and sex cord stromal tumors were 14. The difference was significant (P < 0.05).

#### Graph I Histological type of ovarian neoplasms



#### DISCUSSION

Both pathogenic and functional lesions make up ovarian masses. The most frequent lesions of this retroperitoneal organ are functional lesions, which are primarily cystic. Follicle and corpus luteal cysts make up the majority of functional cysts. Simple cysts make up the majority of functioning cysts, whereas complicated cystic architecture makes up the minority.<sup>7</sup> Ninety percent of these cysts dissolve on their own, according to studies. Due to ovulation failure, these cysts are commonly observed in young females in their second decades. However, postmenopausal and perimenopausal women also showed fewer instances. The majority of pathological lesions are tumors, which can be benign, borderline, or malignant.<sup>8</sup> Since only around 2% of ovarian tumors are seen in children, these tumors are generally less common in the childhood and adolescent age ranges.8. While malignant tumors are more common in older women, the majority of benign ovarian lesions occur in childbearing age groups and are frequently cystic.<sup>9</sup>The present study was conducted to assess gross and histological patterns of ovarian tumours.

We found that laterality was unilateral in 50 and bilateral in 37 cases. Size was <5 cm seen among 28 and >5 cm in 59. It was unilocular cyst in 34, multilocular cyst in 26 and solid and cystic in 27

cases. Jha et al10 sought to determine the age distribution and frequency of various histological categories of ovarian tumors. Of these tumors, 105 (83.9%) were benign, and 26 (161) were malignant, making up 16.1%. The most frequent type of tumors were surface epithelial (52.2%) and germ cell (42.2%). The most prevalent benign tumor was a mature cystic teratoma (48.2%). The most prevalent cancerous tumor (46.2%) was serous adenocarcinoma. Benign tumors were more prevalent than malignant ones across all age categories. While the majority of malignant tumors (73.1%) were observed in people over 40, the majority of ovarian tumors (47.2%) were observed in those between the ages of 21 and 40. Germ cell tumors were more prevalent than other tumors throughout the first two decades.

We found that germ cell tumors were 26, surface epithelial tumors were 47 and sex cord stromal tumors were 14. Selvi et al<sup>11</sup>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.

The incidence, histopathological range, and clinical correlations of ovarian tumors were evaluated by Pradhan et al.<sup>12</sup> A total of 83 cases were reported. With 47% of cases, surface epithelial tumors were the most prevalent type, followed by germ cell tumors (45.8%). Metastatic tumors and sex-cord stromal tumors each made about 3.6%. They ranged in age from 10 to 86. Younger age groups were affected by metastatic tumors. The most frequent clinical presentation was an abdominal mass, which was followed by abdominal pain.

The shortcoming of the study is small sample size.

#### CONCLUSION

Authors found that epithelial tumors are the commonest variety of ovarian tumors. In maximum cases, size was >5 cms.

#### REFERENCES

- Sarkar R. Ovarian neoplasm: A 14 years study. Journal of Obstetrics and Gynecology of India. 1996 Nov;156-9.
- Ahmad Z, Kayani N, Hasan SH, Muzaffar S, Gill MS. Histological pattern of ovarian neoplasma. J Pak Med Assoc.2000 Dec; 50(12):416-9.
- Pilli GS, Suneeta KP, Dhaded AV, Yenni VV. Ovarian tumours: a study of 282 cases. J Indian Med Assoc. 2002 Jul;100(7):423-4.
- Tyagi SP,Maheswari V, Tyagi N, Saxena K, Hameed F. Solid tumors of the ovary. J Indian Med Assoc. 1993 Sep;91(9):227-30.
- Lancaster EJ, Muthuphei MN. Ovarian tumours in Africans: a study of 512 cases. Cent Afr J Med. 1995 Aug;41(8):245-8.
- Ahmed M, Malik T.M, Afzal S, Mubarik A.Clinicopathological study of 762 ovarian neoplasms at Army Medical College Rawalpindi. Pakistan J Pathol. Dec 2004;15(4):147-52.
- 7. Shi YF. Comprehensive analysis of histological types in 14006 cases of ovarian tumors, Zhinghua Fu Chan Ke Za Zhi. 1992 Nov;27(6):335-7.
- Shy Y. Histological classification in 10,288 cases of ovarian malignant tumors in China. Zhinghua Fu Chan Ke Za Zhi. 2002 Feb;37(2):97-100.
- 9. Nowak M, Szpakowski M et al. Ovarian tumors in the reproductive age group. Ginekol Pol. 2002 Apr;73(4):354-8.
- Jha R, Karki S. Histological pattern of ovarian tumors and their age distribution. Nepal Med Coll J. 2008 Jun 1;10(2):81-5.
- Selvi S, Sahayaraj J, Pushpa B, Geetha R. Study of various gross and histological patterns of Ovarian Tumors. IOSR Journal of Dental and Medical Sciences. 2017;16(2):49-54.
- 12. Pradhan A, Sinha AK, Upreti D. Histopathological patterns of ovarian tumors at BPKIHS. Health Renaissance. 2012 Jul 28;10(2):87-97.