

Histopathological study to see the incidence of Neoplastic and Non-Neoplastic lesions in ovaries received in a Tertiary Care Hospital Lahore Pakistan

SEEMA BUTT¹, MOHAMMAD HASHIM FAZILI², SAIRA RATHORE³, SHAZIA NILOFER IBNERASA³

¹Associate Professor Pathology, Lahore Medical and Dental College Lahore

²Demonstrator Pathology, Lahore Medical and Dental College Lahore

³Chghtai Lab, Lahore

⁴Professor of Pathology, Lahore Medical and Dental College Lahore

Correspondence to Dr Seema Butt, Email: Dr.seemazbutt@gmail.com Cell: 0300-8487425

ABSTRACT

Aim: To see the pathology involved in the ovaries received in the histopathology department of LMDC, from a tertiary care hospital, in Lahore, Pakistan.

Methods: This study was done during a period of 6 years with percentage and pattern of involvement and age distribution of the lesions. This is a study of ovarian lesions received in LMDC from Ghurki trust teaching hospital over a period of 6 years. Total of 182 cases were studied. The specimens were received in formal saline and hematoxylin and eosin stained slides were examined.

Results: 182 cases were analyzed and it was found that 113(62%) were involved by non-neoplastic processes, 69(38%) were involved by neoplastic processes among them 38(20.88%) were benign and 31(17%) malignant/borderline. Age range was from 13 years to 76 years with a mean age of 44.5. Follicular cysts were the commonest 47(25.82%) non neoplastic, the most common malignant neoplasm was serous cyst adenocarcinoma (64% among the malignant) and Simple serous cysts were the commonest finding among the benign neoplasms

Conclusion: In our study the most commonly found pathology was non-neoplastic follicular cysts and among the benign neoplastic lesions serous cyst adenomas were the commonest. Most common malignancies were serous cyst adenocarcinomas. Prophylactic hysterectomies with bilateral salpingo-oophorectomies greatly reduce the risk of carcinomas. Such studies indicate the importance of early investigations and diagnosis in prevention of development of malignancies.

Keywords: Neoplastic lesions, ovary, adenocarcinoma

INTRODUCTION

Ovaries are the female reproductive organs placed in pelvis, on both sides of uterus supported by ovarian and broad ligaments. Ovaries have a surface lining of cuboidal cells, with an underlying connective tissue and external area called cortex with multiple follicles at different stages of development from birth till she reaches menopause. The area in the middle is the medulla which has stroma and larger blood vessels. Ovaries can be involved in many pathological conditions with reference to the surface epithelium, germ cells and stroma¹.

Mostly Hysterectomies with bilateral salpingo-oophorectomies are done in older menopausal patients with abnormal endometrial bleeding, with some exceptions being in younger women. Ovaries are also resected in cases of adnexal mass or cystic lesions or in cases of tubal pregnancies. The ovarian neoplasms come to attention when they are large and in late stages as they have mild symptoms in the beginning. The diagnosis is made by histopathological examination and in this study different non neoplastic and neoplastic categories are separated with their frequencies and distribution².

MATERIALS AND METHOD

This descriptive and cross sectional study was conducted at LMDC in the department of histopathology. The

Received on 24-06-2019

Accepted on 16-10-2019

specimens from which the data was retrieved consisted of ovaries along, with hysterectomies and as adnexal masses. The study covers a period of last 6 years from 2014 to 2019. The ovaries received having various pathologies were included and consisted of 182 samples. Ovarian lesions with age wise distribution were collected, tables were made and results analyzed.

RESULTS

Table. 1 Benign Neoplastic Ovarian Lesions

Diagnosis	n	%age
Benign Mucinous Cystadenoma (4)	4	10.52
Benign Teratoma (6)	6	12.79
Fibroma (2)	2	5.26
Cystadenofibroma (1)	1	2.63
Dermoid Cyst (1)	1	2.63
Serous Cyst Adenoma (1)	1	2.63
Serous Cyst (18)	18	47.40
Benign Mucinous Cyst (5)	5	13.16%

Table.2 Benign non-neoplastic lesions

Diagnosis	No Of Cases
Follicular Cysts	47
Corpus Leuteal Cysts	46
Endometrotic Cysts	8
Salpingo-oophoritis	9
Ovarian Torsion	3

The results are shown in the tables, pie and bar charts. Among the 182 cases analyzed the ovaries involved by

non-neoplastic processes were 113 (62%) in number .As shown in Fig 1 and Table 1 Ovaries involved by neoplastic process were 69(38%), with 38(20.88%) benign and 31(17%) malignant/borderline tumors. The age range shown in Fig.2 was from 13 years to 76 years. Maximum numbers of cases were received in the age group of 41 to 50 years. Above 60 years of age there were only 5 cases. A small number of the pathologies fell in 10 to 20 years group and were just 6 cases. As shown in Table 2 among

the non-neoplastic lesions, follicular cysts were the commonest 47(25.82%) followed by hemorrhagic corpus luteal cysts 46(25.27%). Endometriotic cysts made up 8(4.39%) cases. The most common malignant neoplasm was serous cyst adenocarcinoma 20 (64% of malignant cases). Simple serous cysts were the commonest finding among the benign neoplasms 17(47.4%) of benign neoplastic lesion.

Fig.1 Ovarian Malignant Neoplastic Processes

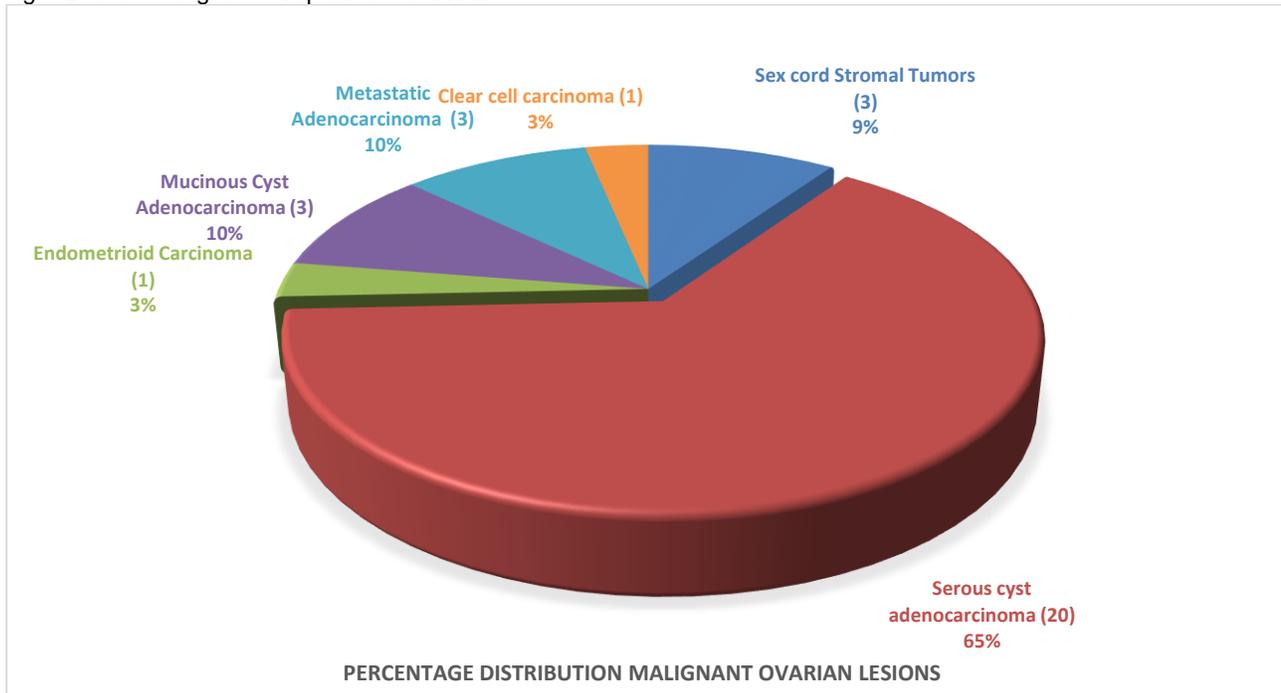
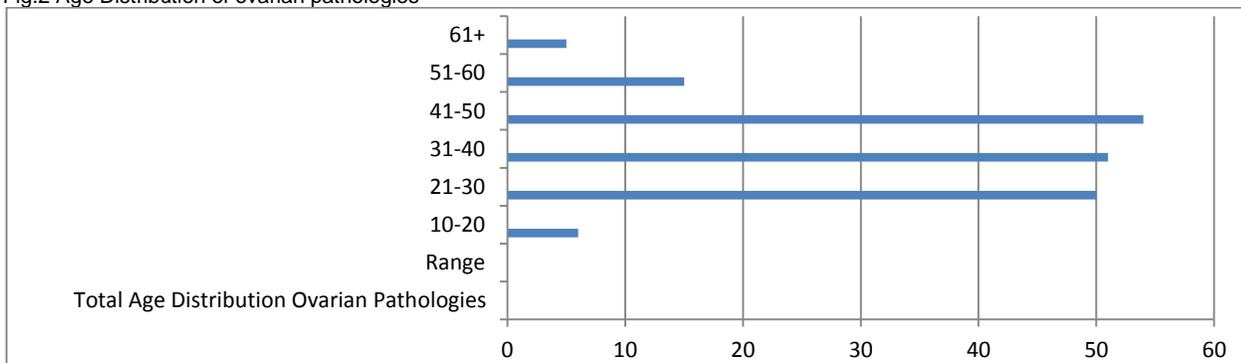


Fig.2 Age Distribution of ovarian pathologies



DISCUSSION

Ovaries received in our department for histopathology were mostly received with hysterectomy specimens and as adnexal masses. Ovarian tumors may occur at any age however incidence increases with age. They can be involved by non- neoplastic or neoplastic pathologies. Ovarian carcinomas are the leading cause of death in all gynecological cancers, with most of the patients presenting

at later stage due to initial mild symptoms. The risk factors are old age, family history of breast carcinoma, ovarian carcinoma, endometrial carcinoma, infertility and BRCA 1 BRCA2 mutations. Appropriate physical examination is essential in any age of females presenting with symptoms of PV bleeding, bowel symptoms or history of risk factors. The patient should have their abdominal and trans-vaginal ultrasonography, examinations for ascites or any palpable mass and CA125 levels. Such type of investigations can

help in the management of patients whether to observe for further evaluation or to go for surgeries³.

In this study different pathological categories were analyzed according to WHO criteria. The most common pathologies were non neoplastic in nature which were 113(62.09%). The commonest among them were follicular cysts 47(25.82%), and the second most common were corpus luteal cysts 46(25.27%). Eight cases were of endometriosis. Similar findings were seen in a study by Akina Praksh⁴, Ajmair et al⁵. This is in contrast with a study done by Palak J Modi et al² in which the most common were corpus luteal cysts 16.82% and then follicular cysts 12.5%.

Among the neoplastic pathologies, 38(20.87%) were found to be benign and 31 (17.03%) were malignant. The most common benign lesions were simple serous cysts that were 18(54.54%) cases then were mucinous cyst 5 (13.16%) and 7(18.42%) cases were of teratomas^{6,7}. The malignant neoplasm were 31(44.92%) out of the neoplastic lesions, the most common being serous cyst adenocarcinoma 20(64.5%)^{8,9}.

Endometriotic cysts found were eight, nine cases of oophoritis and three ovarian torsions. Endometriotic cysts and teratomas were common pathologies¹⁰.

In our study the age of the patients was from 13 years to 76 years with mean age 44.5 years, with onset of adolescence the incidence of ovarian pathologies rises .In this study there were two cases of cyst with torsion at ages of 13 and 27 years and one was at age 30 years. One such study also has the same results¹¹.

The age group having the maximum number of ovarian pathologies was between 41-50 years. The second largest group were in 31-40 years. This is in contrast with a study by akina parkash⁴.

Most of the malignant lesions were in patients above 40 years and the benign were common below 40 years of age. A study by Ajmair⁵ also is in accordance with our study in which 2/3 of benign lesions were between age group of 20-40 years. Two thirds of all malignant pathologies were seen after 40 years of age.

CONCLUSION

Variety of ovarian lesions received with clinical and radiological studies were confirmed mostly by histopathology or sometimes with help of immunohistochemistry. In our study the most commonly found pathology was non-neoplastic follicular cysts and

among the benign neoplastic lesions serous cyst adenomas were the commonest. Most common malignancies were serous cyst adenocarcinomas. Mostly in suspicion cases and at premenopausal age hysterectomies were accompanied with bilateral oophorectomies prophylactically to reduce the risk of carcinomas. Such studies give an idea of the importance of early investigations and diagnosis in prevention of development of malignancies.

REFERENCES

1. Neelgund S, Hiremath P. A retrospective study of ovarian cysts. *Int J Reprod Contracept Obstet Gynecol* 2016;5:1969-73.
2. Modi PJ, Bhalodia JN, Shah NM. Histopathological analysis of non-neoplastic lesions of ovary: A study at tertiary care hospital in western region of India. *Int J Med Sci Public Health* 2018;7(10):843-847.
3. Greentop guideline No.34 the management of ovarian cysts in postmenopausal women, July 2016.
4. Prakash A, Chinthakindi S, Duraiswami R, Indira.V. Histopathological study of ovarian lesions in a tertiary care center in Hyderabad, India-a retrospective five-year study. *Int J Adv Med* 2017;4:745-9.
5. Pachori G, Meena US, Sunaria RK, Pachori P, Jethani N, Bayla T. Histopathological study of ovarian tumors in Ajmer region. *Int J Med Sci Public Health* 2016;5: 1400-1403
6. Zaman S, Majid S, Hussain M, Chughtai O, Mahboob J, Chughtai S. a retrospective study of ovarian tumours and tumour like lesions, *J Ayub Med Coll Abbottabad* 2010.
7. Wills V, Mathew R. A study on clinico-histopathological patterns of ovarian tumors. *Int J Reprod Contracept Obstet Gynecol* 2016;5:2666-71.
8. Kanthikar S.N.1, DravidN.V. 2, Deore P.N. 3, Nikumbh D.B. 4, Suryawanshi K.H. Clinico-Histopathological Analysis of Neoplastic and Non-Neoplastic Lesions of the Ovary: A 3-Year Prospective Study in Dhule, North Maharashtra, India, *Journal of Clinical and Diagnostic Research*, 2014 Aug.
9. Iqbal J, Aurangzaib, Naseem A, Shahid A. Pattern of Ovarian Pathologies, *Journal of Rawalpindi Medical College (JRMC)*; 2013;17(1):113-115
10. Ionescu AC, MD, PhDa., Matei A, MD, Navolan D, MD, PhDc, Dimitriu M, MD, PhDa, Bohâltea R, MD, PhDa, Neacsu A, MD, PhDa, Ilinca C, MAd, Ples L, MD, PhDa. Correlation of ultrasound features and the Risk of Ovarian Malignancy Algorithm score for different histopathological subtypes of benign adnexal masses.
11. Emeksiz CH, Derinöz O, Akkoyun BE, Faruk Güçlü Pınarlı GF, Bidecil A. Age-Specific Frequencies and Characteristics of Ovarian Cysts in Children and Adolescents