ORIGINAL ARTICLE

HISTOPATHOLOGICAL STUDY OF OVARIAN CYSTIC LESIONS

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ABSTRACT

BACKGROUND: Ovarian cystic lesions are common in gynecologic practice and is the most common cause of gynecologic surgery in hospitals. These may be non neoplastic or neoplastic. The neoplastic may be either benign or malignant. It is clinically important to differentiate between benign and malignant cystic lesions for management purpose.

OBJECTIVE: To determine the frequency of morphologic pattern of cystic lesions of the ovary

MATERIAL AND METHODS: This retrospective descriptive study was carried out in the Department of Gynaecology/Obstetrics and Pathology SMC & STH, Swat from January 2014 to December 2015. A total of 104 cases were subjected to this study. All the cases of ovarian cysts sent for histopathological examination were included in this study. Autolysed and insufficient specimen were excluded. Data was recorded on predesigned proforma. All the biopsy specimen were received in 10% buffered formalin, sections 5 millimeter thick were taken, processed for histopathological tissue processing. Hematoxylin and Eosin (H&E) stained were used for diagnostic purposes and diagnosis recorded.

RESULTS: In this study one hundred and four (104) cases of ovarian cystic specimen were included. The mean age was 38 years with age range from 14-73 years. Amongst these 60 (57.6%) cases were bilateral and 44 (42.30%) cases were unilateral. Benign lesions were 100 (96.15%) and malignant lesions were 4 (3.8%) cases. Amongst the benign lesions follicular cyst ovary was the commonest lesion 37 (35.5%) cases followed by mucinous cyst adenoma 18 (17.30%), serous cyst adenoma 16 (15.38%), mature cystic teratoma 14 (13.46%) etc. In these benign cystic lesions there were 14 cases (13.46%) of mature cystic teratoma (Dermoid Cyst), 18 cases (17.30%) were mucinous cyst adenoma, 16 cases (15.38%) were serous cyst adenoma, 09 cases (8.6%) were corpus luteal cyst, 2 cases (1.92%) were adenofibroma of ovary and 4 cases (3.8%) were ovarian cyst of undetermined origin. In theses 100 cases 37 cases (35.5%) were normal occurring follicular cysts.

CONCLUSION: This study show follicular cyst as the commonest histological lesion in cystic ovarian surgical specimen.

KEY WORDS: Ovarian cyst, Histopathology, Benign cyst, Mucinous Cystadenoma.

INTRODUCTION

The most common ovarian lesion in gynecologic practice and the cause of surgery and hospitalization is ovarian cyst. Ovarian cysts are the most common site for neoplastic and non-neoplastic lesions. It is clinically important to differentiate these lesions whether they are benign or malignant in order to adjust the therapeutic module. The proper treatment depends on the histological abnormalities.¹ The histology of ovarian lesion/cyst exhibit wide variety of histological features. World health organization (WHO) classify the ovarian tumors on histogenic basis and categorizes ovarian tumors with regard to their origin from surface epithelial cells, germ cells, and mesenchymel²-⁷.

Ovarian cyst can be pathological or physiological. Pathologic ovarian cysts are
mainly ovarian neoplasm which can be benign, borderline or malignant. Benign ovarian tumors are more common in young females and malignant tumors are more common in elderly females. Physiological cysts are mainly follicular cyst and luteal cyst which are benign in nature$^{8-12}$. One cannot confidently distinguish a benign lesion from a malignant one on the basis of clinical, radiological or gross features alone therefore histopathologic examination is must as it guides therapy$^{13}$.

The objective of this study was to see the histopathological pattern of various ovarian cystic lesions in the region of KPK, Pakistan.

**MATERIAL AND METHODS**

This retrospective descriptive study was carried out in the Department of Pathology SMC, Swat from January 2014 to December 2015. A total of 104 cases were taken in this study. All the cases of ovarian cysts sent for histopathological examination were included in this study. Data including age, clinical findings, history and laterality were recorded in a pre designed proforma. All the specimen were received in 10% buffered formalin, labeled, gross performed, 5 millimeter thick sections taken, processed in different of ethanol, xyelen, paraffin wax, blocks prepared, 4 micron thin sections taken, slides prepared. These slides were stained with H%E and reported by histopathologist. All the data were analyzed in statistical package for social sciences (SPSS) version 16 for frequencies with percentages and mean with standard deviation where applicable.

**RESULTS**

In this study one hundred and four (104) cases were studied. The mean age was 38 and range was between 14-73 years. Amongst these 77 (74.03%) cases were unilateral and 27 (25.96%) cases were bilateral. Table I. Benign lesions were 100 (96.15%) and malignant lesions were 4 (3.8%) cases. Amongst the benign lesions benign cyst (NST) were the commonest lesion 37 (35.5%) cases followed by mucinous cyst adenoma 18 (17.30%), serous cyst adenoma 16 (15.38%), mature cystic teratoma 14 (13.46%), luteal cyst 9 (8.6%), endometriotic cyst ovary 4 (3.8%) and serous cystic adenofibroma were 2 (1.92%) cases. In malignant cystic lesions dysgerminoma 4 (3.8%) cases were only present. Table II.

**Table 01: Laterality of ovarian cystic lesions (n=104).**

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Laterality</th>
<th>Number of cyst</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Unilateral</td>
<td>77</td>
<td>74.03%</td>
</tr>
<tr>
<td>2</td>
<td>Bilateral</td>
<td>27</td>
<td>25.96%</td>
</tr>
<tr>
<td>3</td>
<td>Total</td>
<td>104</td>
<td>100%</td>
</tr>
</tbody>
</table>

**Table 02 Frequency of various cystic ovarian lesions (n=104).**

<table>
<thead>
<tr>
<th>Type of cystic lesion</th>
<th>Number of cases</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benign cyst (NST)</td>
<td>37</td>
<td>35.5%</td>
</tr>
<tr>
<td>Mucinous cyst adenoma</td>
<td>18</td>
<td>17.30%</td>
</tr>
<tr>
<td>Serous cyst adenoma</td>
<td>16</td>
<td>15.38%</td>
</tr>
<tr>
<td>Mature cystic teratoma</td>
<td>14</td>
<td>13.46%</td>
</tr>
<tr>
<td>Luteal cyst</td>
<td>9</td>
<td>8.6%</td>
</tr>
<tr>
<td>Endometriotic cyst</td>
<td>4</td>
<td>3.8%</td>
</tr>
<tr>
<td>Dysgerminoma</td>
<td>4</td>
<td>3.8%</td>
</tr>
<tr>
<td>Serous cystadenofibroma</td>
<td>2</td>
<td>1.92%</td>
</tr>
</tbody>
</table>

**DISCUSSION**

Ovarian cyst is a fluid filled cavity surrounded by a fibrovascular wall. The size of ovarian cysts usually ranges from 2 cm to 40 cm in diameter widely in size, in rare cases the size may be so large that the lady looks pregnant$^{1,3}$. Majority of ovarian cystic lesions are benign including functional and non functional, where is a significant number may be malignant like serous and mucinous cystadencarcinomas$^{2,4}$. Ovarian cystic lesions can occur in any age and are more frequently seen in reproductive age.
However they can occur in 14% patients in postmenopausal age.  

In this study the age range was 14-73 years with mean age of 34.22±17.23 years. In a study conducted by Pudasaini et al, the age range was from 6 to 98 years. In another study done by Bhattacharya et al, the age range was from 10-73 years. Another study conducted by Gurung et al in Nepal 2013 the age range was from 13-73 years.

In this study benign cystic lesions were 100 (96.15%) and malignant cystic lesions were 4 (3.8%) cases. In a study conducted by Gurung et al benign cystic lesions were 96.3% where as 3.7% cases were malignant cystic lesions. Another study conducted by Pudasaini et al in 2011 in Nepal benign cystic lesions were 87.3% and malignant cystic lesions were 12.7%. In a study conducted by Jha et al in Nepal in 2008 benign cystic lesions were 83.9% and 16.1% were malignant. Another study conducted by Ahmad et al in 2000 in Pakistan of ovarian tumors were benign and 16.1% of ovarian tumors were malignant benign cystic lesions were 59.2% and malignant lesions were 40.8%. In this study most of the cystic lesions 77 (74.03%) were unilateral and 27 (25.96%) were bilateral. In a study conducted by Gurung et al show 88.15% unilateral ovarian cystic lesions were as 11.85% cases were bilateral. Another study conducted by Sajjad et al in 2014 show 94.9% unilateral lesions and 5.1% as bilateral lesions.

In this study benign cyst (NST) was the commonest lesion 37 (35.5%) followed by mucinous cyst adenoma 18 (17.30%), serous cyst adenoma 16 (15.38%), mature cystic teratoma 14 (13.46%), luteal cyst 9 (8.6%), endometriotic cyst ovary 4 (3.8%) and serous cystic adenofibroma 2 (1.92%) cases.

In a study conducted by Gurung et al mature cystic teratoma was the commonest lesion followed by endometriotic cyst 17.00%, serous cystadenoma 16.2%, simple cyst 10.4%, luteal cyst 9.6%, hemorrhagic cyst and mucinous cystadenoma each 4.4% and serous cystadenofibroma 0.7% where as malignant and borderline malignant serous cyst adenocarcinoma were 5.18% cases. This study show differences in frequencies of different benign cystic lesions from the present study.

**CONCLUSION**

This study in general agrees to both national and international studies regarding the age range and laterality of tumors but show gross differences regarding the benign cystic lesions, this may due to difference in orientation of clinician regarding surgical approach to different cystic ovarian lesions.

**REFERENCES**


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