# Non-neoplastic Cystic Lesions of Ovary

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To find out the histomorphological pattern and the frequency distribution of the non-neoplastic cystic lesions of ovary this retrospective study was done from January 2008 to December 2015. Data was analyzed on the histopathological evaluation of 231 cases of ovarian lesions reported at a private diagnostic center of Dhaka City. Diagnosis was based on the diagnostic criteria of standard reference books of histopathology. Out of 231 cases 71.4% lesions were non-neoplastic and 28.6% were neoplastic. Among the 165 non-neoplastic ovarian lesions, 35.2% follicular cyst, 27.2% corpus luteal cyst, 24.3% chocolate cyst and 11.5% simple cyst. Non-neoplastic ovarian lesions were more common than neoplastic ones. Follicular cysts were the commonest non-neoplastic ovarian lesions. Corpus luteal cysts and chocolate cysts were next in frequency.

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## Introduction

Ovary is a common site for both neoplastic and non-neoplastic cystic lesions. They used to occur from childhood to menopause. The spectrum of ovarian lesions is wide from harmless simple cystic lesions to fatal aggressive malignant ones. Ovarian cancers are increasing widely in our country and the important cause of cancer death in women. The malignant ovarian lesions are notorious as they are relatively symptomless in early stage, and usually diagnosed at an advanced stage with poor outcome. Early diagnosis is important for a prosperous management of the patients. On the other hand, majority of the non-neoplastic cysts are functional in nature and subsides spontaneously or with minimal treatment. The common non-neoplastic lesions of the ovary include follicular cyst, corpus luteal cyst and chocolate cyst. Follicular cysts and corpus luteal cysts are usually self limiting and cause temporary hormonal imbalance which leads to menstrual irregularities. Chocolate cysts usually cause chronic pelvic pain, dysmenorrhoea of varying degree, dyspareunia and subfertility. Non neoplastic ovarian cysts sometimes form a pelvic mass and mimics ovarian neoplasm. Diagnosis of these cystic lesions is made usually with clinical examination, pelvic ultrasound and excluding the presence of tumor markers. But these tools are not sufficient enough to differentiate between neoplastic and non-neoplastic cystic lesions. It is not always possible to establish a diagnosis pre-operatively and often necessitates surgical excision. Histopathology is the only tool for confirmation of the diagnosis of the lesions. This study was carried out to find the frequency of excised non-neoplastic cystic lesions of ovary in comparison of neoplastic lesions and also to study the histomorphological patterns of non-neoplastic cysts.

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## Methods

The present study is based on the data collected from a private diagnostic centre of Dhaka city. The study is a retrospective analytical study. It includes all the patients who had undergone surgical oophorectomy with or without hysterectomy. The cases with tubo-ovarian mass which were due to infective causes were excluded from the study. The study period involves January 2008 to December 2015. A total 231 patients were included in the study which was further stratified into four age groups: Group I (less than 20 years); group II (20 to 40 years); group III (40 to 60 years); group IV (more than 60 years). All the samples were fixed in 10% formalin and stained by routine Hematoxyline & Eosin stain. Histological diagnosis was based on the diagnostic criteria of standard reference books of histopathology.[1,2]

## Result

**A** total of 231 cases were included in the study. The mean age was 36.58 ±10.45 **years.** Most of the patient's were in 20 to 40 years age group and least number of patients in more than 60 years age group.

Table I: Age Distribution among the Study Population (n=231)

| Age Group | Frequency | Percent |
|---|---|---|
| Group I (< 20 yrs) | 17 | 7.4 |
| Group II (20 - 40 yrs) | 135 | 58.4 |
| Group III (40 – 60 yrs) | 76 | 32.9 |
| Group IV (> 60 yrs) | 3 | 1.3 |
| Total | 231 | 100.0 |
| Mean±SD | 36.58±10.453 (range 9-65) | |

Out of 231 cases 165 were non neoplastic ovarian lesions and 66 neoplastic lesions.

Table II: Distribution of types of ovarian lesion (n=231)

| Types of Lesions | Frequency | % |
|---|---|---|
| Non-neoplastic Lesion | 165 | 71.4 |
| Neoplastic Lesion | 66 | 28.6 |
| Total | 231 | 100.0 |

Among the 165 non-neoplastic ovarian lesions follicular cyst was the commonest presentation. In 40 cases chocolate cysts were found, of which 10 cases were bilateral. Next in frequency were corpus luteal cysts followed by simple cysts. Out of 45 corpus luteal cysts 21 were hemorrhagic corpus luteum. In 3 cases twisted ovarian cysts were found.

Table III: Distribution of Non-neoplastic Cyst (n=165)

| List of Cyst | Frequency | % |
|---|---|---|
| Follicular Cyst | 58 | 35.2 |
| Simple cyst | 19 | 11.5 |
| Chocolate cyst | 40 | 24.3 |
| Corpus luteal cyst | 45 | 27.2 |
| Twisted Ovarian Cyst | 3 | 1.8 |
| Total | 165 | 100.0 |

## Discussion

Age range of our patients was from 9 to 65 years and the mean age was 36.58 ±10.45 years. Mean age of our study was similar to other study.[3,4] This study shows that maximum frequency of ovarian masses between 20 to 40 years age group. These findings correlate with other studies of this region.[3]

In the present study non-neoplastic lesions were 71.4% and neoplastic lesions 28.6%. These findings are similar to a study done in Pakistan.[5] But another study in Andhra Pradesh of India shows a higher percentage of neoplastic lesions and much lower percentage of non-neoplastic lesions.[6] This variation may

result from difference in inclusion criteria. Among non-neoplastic lesions follicular cysts were most common, followed by corpus luteal cysts. Some other study from Nepal also found follicular cyst as the commonest non-neoplastic cystic lesion.[7,8.] But another study of Pakistan found corpus luteal cyst as most common.[9]

In 12.7% cases patients presented with haemorrhagic corpus luteum which usually cause acute clinical presentations. Chocolate cysts were the third most common cause of non-neoplastic cysts. Of the total non-neoplastic cystic lesions 6.1% have bilateral chocolate cysts. The number of twisted cyst was very low in our study. Tubo-ovarian masses due to infective cause were not included in the study. Many other study found follicular cysts as commonest non-neoplastic cystic lesions like our study.[4,10,11] Kanthikar S N et al[10] also found corpus luteal cyst as the second most common non-neoplastic ovarian cyst. But in comparison to our study the incidence of twisted ovarian cysts were much higher in other studies.[5,6]

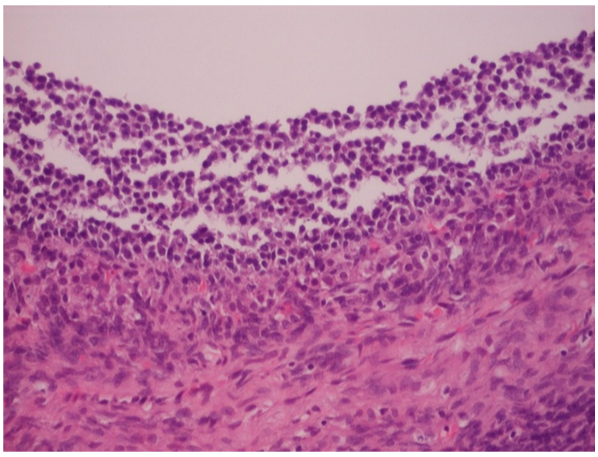

Fig.1. Photomicrograph of follicular cyst

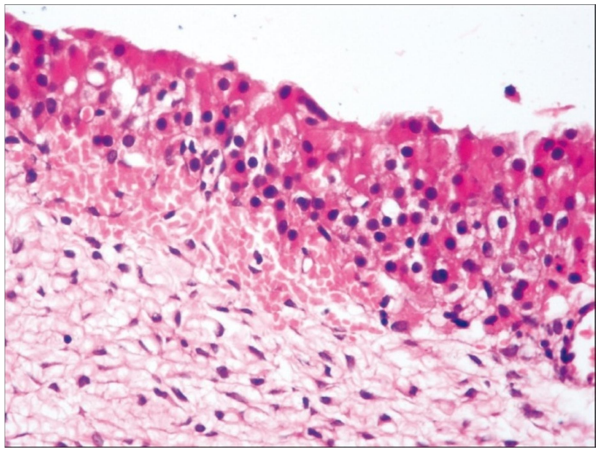

Fig.2. Photomicrograph of corpus luteal cyst

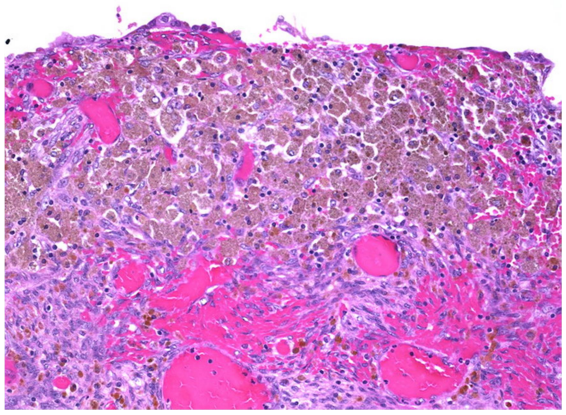

Fig.3. Photomicrograph of chocolate cyst

*Conclusion*

Among the various non-neoplastic lesions of ovary follicular cyst was the commonest presentation which develops as a result of variation of normal physiological processes. Corpus luteal cysts and chocolate cysts were next in frequency. Due to the wide diversity of the lesions it is important to differentiate them pre-operatively to avoid unnecessary surgical intervention. This study is single laboratory based and sample size is small. Therefore the results obtained may not reflect the actual histological pattern of non-neoplastic ovarian lesions. A large group multicentre study is needed for further evaluation.

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