



## Clinical And Histopathological Correlation Of Ovarian Neoplasm In A Tertiary Care Hospital

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### Abstract

**Background :** Ovarian mass is common form of neoplasm in women. It is the third most common leading site of cancer in female genital tract after cervix and endometrium

**Aim:.** To analyse the clinical data, to study different histopathological types of ovarian neoplasms and to establish the correlation between the clinical and histopathological findings.

**Methodology :** This study was done at Mahatma Gandhi Medical College and Hospital, Jaipur. The data collected consist of relevant information about age, clinical symptoms, provisional diagnosis and histopathological correlation.

**Results :** In the present study total 65 cases of ovarian neoplasm were studied. 43.1% were benign and 56.9% were malignant neoplasm. Among the malignant cases studied the most common encountered was surface epithelial tumors and benign cases also showed predominance to surface epithelial tumors.

**Conclusion :** Ovarian mass present with wide spectrum of various clinical and histopathological forms. Proper clinical and histopathological correlation of ovarian neoplasm help in early diagnosis as well as prognosis of ovarian tumors. Histopathological examination remains the gold standard for diagnosing ovarian neoplasm.

**Keywords:** Ovarian neoplasms, clinical, histopathological correlation

### Introduction

Ovarian neoplasm is the sixth most common cancer<sup>1</sup> and it ranks fifth in cancer deaths among women worldwide<sup>2,3</sup>. The incidence varies from 0.9-8.4 per 100,000 women in India and increases with age<sup>4</sup>. About 80% of ovarian neoplasm are benign and occurs mostly in young women between 20 -45 years of age whereas malignant tumors are seen in women between 45 and 65 years of age. It is the third most common site of primary malignancy accounting for 30% of all cancers of female genital tract, after cervix and endometrium<sup>5</sup>. It is associated with various risk factors. The important risk factor is positive family history of breast or ovarian cancer and even personal history of breast cancer also increases the risk of

ovarian cancer<sup>6</sup>. It becomes very difficult to recognize the condition in early stage as the symptoms are vague and insidious. Hence ovarian neoplasm often is called the 'Silent killer' because the symptoms don't develop until the advanced stages, where the disease has already been spread and metastasized in different sites<sup>1</sup>. About 80% of the cases are diagnosed in advanced stages. Overall mortality is seen in 75% of cases but can be cured upto 90% of cases if limited to the ovaries<sup>7</sup>. WHO classified the ovarian neoplasm mainly into two groups, primary or secondary(metastatic) based on tissue of origin. The standard line of treatment includes surgery and platinum based chemotherapy, however bevacizumab and Poly (ADP ribose)

polymerase (PARP) inhibitors have gained importance in the treatment<sup>8</sup>. In spite of new methods in genetics and imaging, the diagnosis of ovarian neoplasm is dependent upon histological examination.

## Materials And Methods

### Study Design :

This study was prospective study conducted in the Department of Pathology, Mahatma Gandhi Medical College and Hospital, Jaipur for a period of one year, from September 2020 to 2021. A written and informed consent was taken from each study participant.

### Sample Size :

In the present study, total 65 cases were taken. The data collected consist of relevant information about age, clinical symptoms, provisional diagnosis and histopathological correlation.

### Study Participants :

Patient of any age with ovarian neoplasm were included in the study. All non-neoplastic lesions of the ovary and specimen without complete information were excluded from the study.

### Sample Collection :

All tissue sample with ovarian lesion sent to the histopathology section of department of Pathology. Specimens were studied to note the gross findings. Different sections are taken from the tissue and were put in 10% formalin. After complete processing, tissues were embedded in paraffin, blocks prepared, cut into sections of 4 micron thickness and then stained by routine Haematoxylin and Eosin stain.

## Results

In the present study total 65 cases of ovarian neoplasm were studied. Out of 65 neoplastic lesions, 28 cases(43.1%) were benign and 37 cases (56.9%) were malignant (Graph 1).

The most common symptom was abdominal pain followed by abdominal mass, menstrual abnormality and weight loss (Graph 2).

Majority of cases were in the age group of 40-60 years (Graph 3). The youngest case was 14 year old female having benign cystic teratoma involving both ovaries and the oldest case was an 75 year old

female having serous papillary adenocarcinoma, right ovary. Out of 65 neoplastic lesions, 58 cases(89.2%) are of surface epithelial tumors, 5 cases(7.7%) are of germ cell tumors and 2 cases(3.1%) are of sex cord stromal tumors ( Graph 4).

### Gross Examination :

Serous Carcinoma : Cyst cavity with bulky tumor mass(Fig 1).

Mucinous Carcinoma : Multicystic appearance with glistening mucin within the cysts(Fig 2).

Mature Teratoma : Cyst containing hair and sebaceous material(Fig 3).

### Microscopic Examination :

Serous Carcinoma : H&E section shows cuboidal to columnar cells with eosinophilic cytoplasm, nuclear atypia and nuclear pleomorphism (Fig 4).

Mucinous Carcinoma : H&E section shows irregular shaped glands lined by epithelium with minimal stroma (Fig 5).

Mature Teratoma : H&E section shows squamous epithelium with sebaceous glands and adipose tissue (Fig 6).

## Discussion

Ovarian cancer is one of the most common gynecologic cancers that has the highest mortality rate. In the present study clinicopathological correlation of 65 neoplastic cases were done. The clinical parameters like age, clinical symptoms were compared with the histological type of tumors.

In the present study, 28 cases(43.1%) were benign and 37 cases(56.9%) were malignant whereas study conducted by SK Abdullah *et al*<sup>7</sup>, Sachin *et al*<sup>5</sup> showing that the frequency of benign tumors were more as compared to malignant tumors(Table 1). Since our study was done at hospital having oncology center, we have more number of malignant cases as compared to other studies. Majority of cases diagnosed in our study were in the age group of 40-60 years. Similar findings were found by Sachin *et al*<sup>5</sup>.

Histopathologically, surface epithelial tumors (89.2%) were most common type followed by germ cell tumor(7.2%). This is similar to the studies

conducted by SK abdullah et al<sup>7</sup>, Sachin et al<sup>5</sup>, Raka et al<sup>9</sup> (Table 2). In our study, majority of cases presented with abdominal pain(44.6%) followed by abdominal mass(36.9%). This agrees with the findings of the SK abdullah et al<sup>7</sup>, Sudha V et al<sup>10</sup> (Table 3 ).

### Conclusion

Ovarian pathology is the widest and most complex problems in modern gynecology and most common tumor in women of reproductive age group..Ovarian mass present in various clinical and histopathological forms. Proper clinical and histopathological correlation of ovarian neoplasm help in early diagnosis as well as prognosis of ovarian tumors. Histopathological examination remains the gold standard for diagnosing ovarian neoplasm.

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**Fig 1 : Serous Carcinoma**



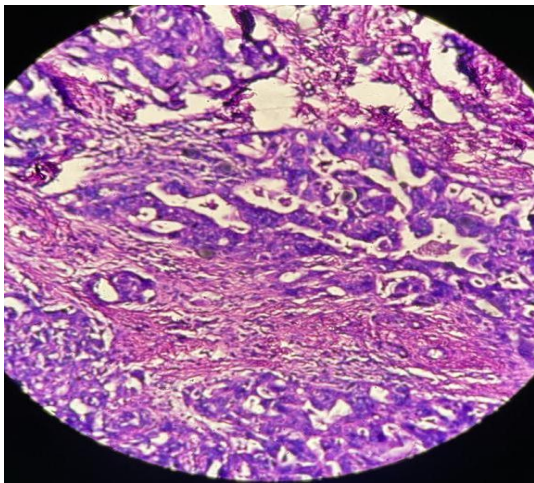
**Fig 2 : Mucinous Carcinoma**



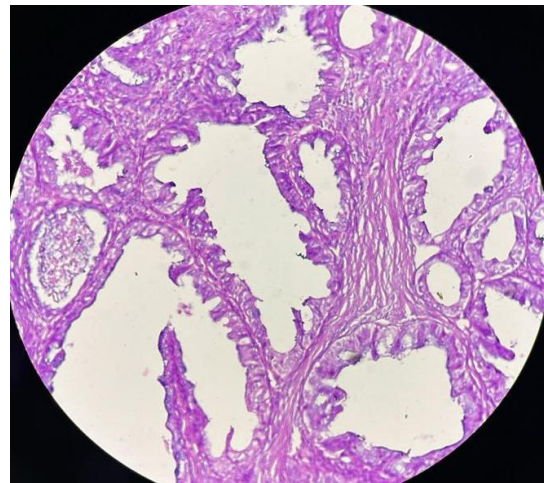
**Fig 3 : Mature Teratoma**



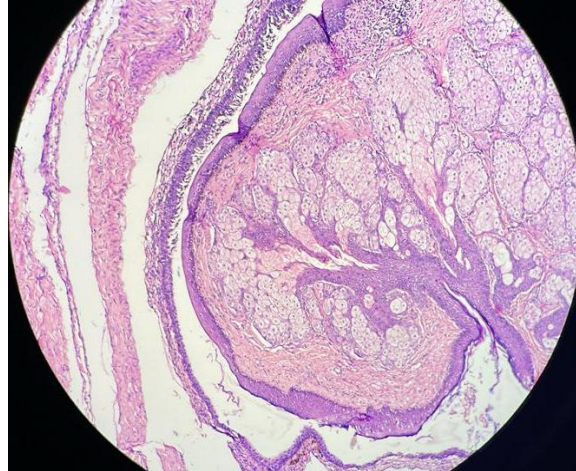
**Fig 4 : Serous Carcinoma**



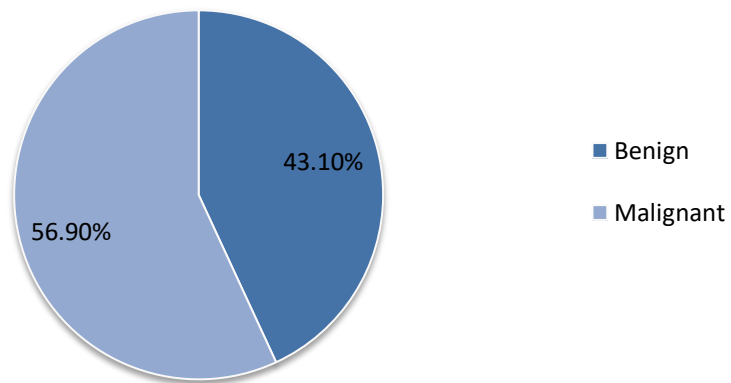
**Fig 5 : Mucinous Carcinoma**



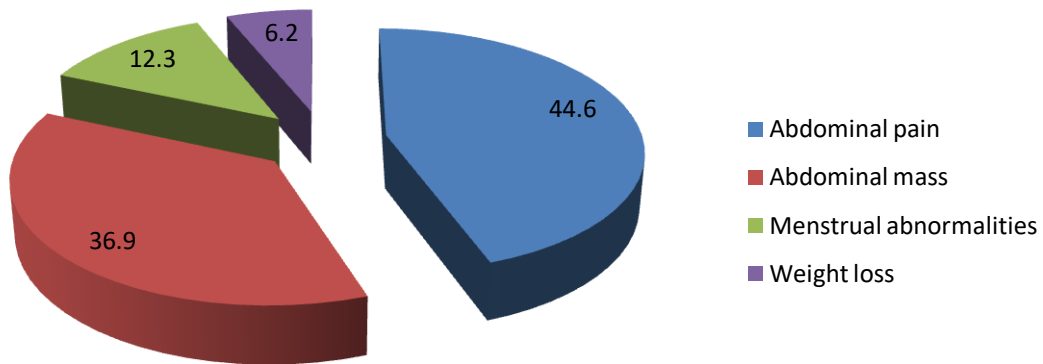
**Fig 6 : Mature Teratoma**



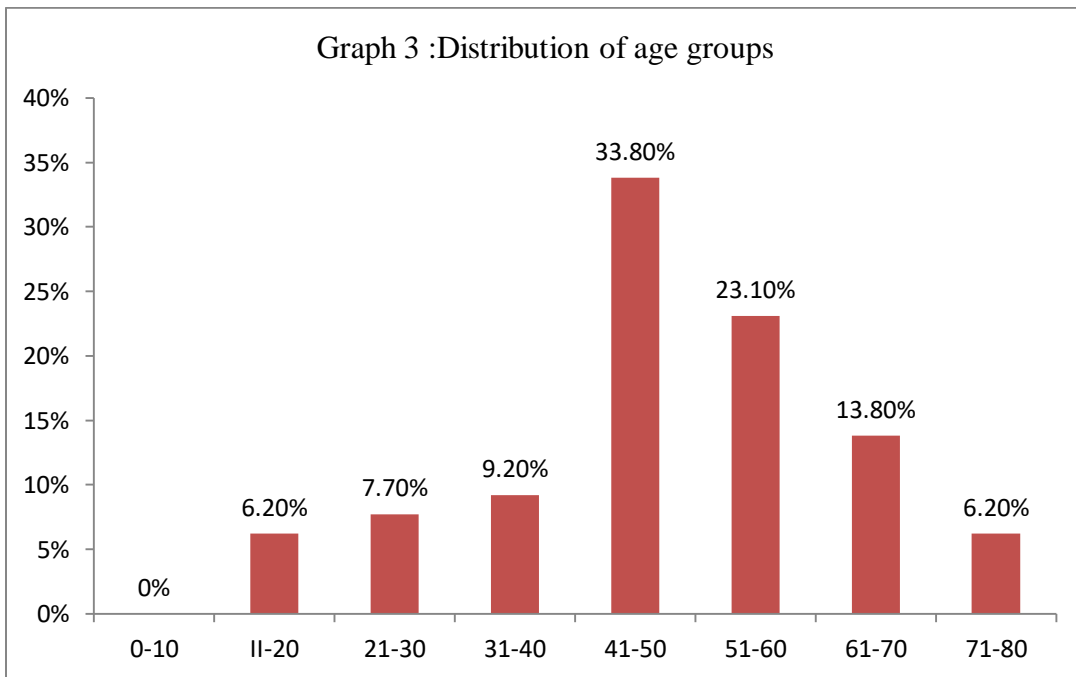
**Graph 1 : Distribution of ovarian tumors**

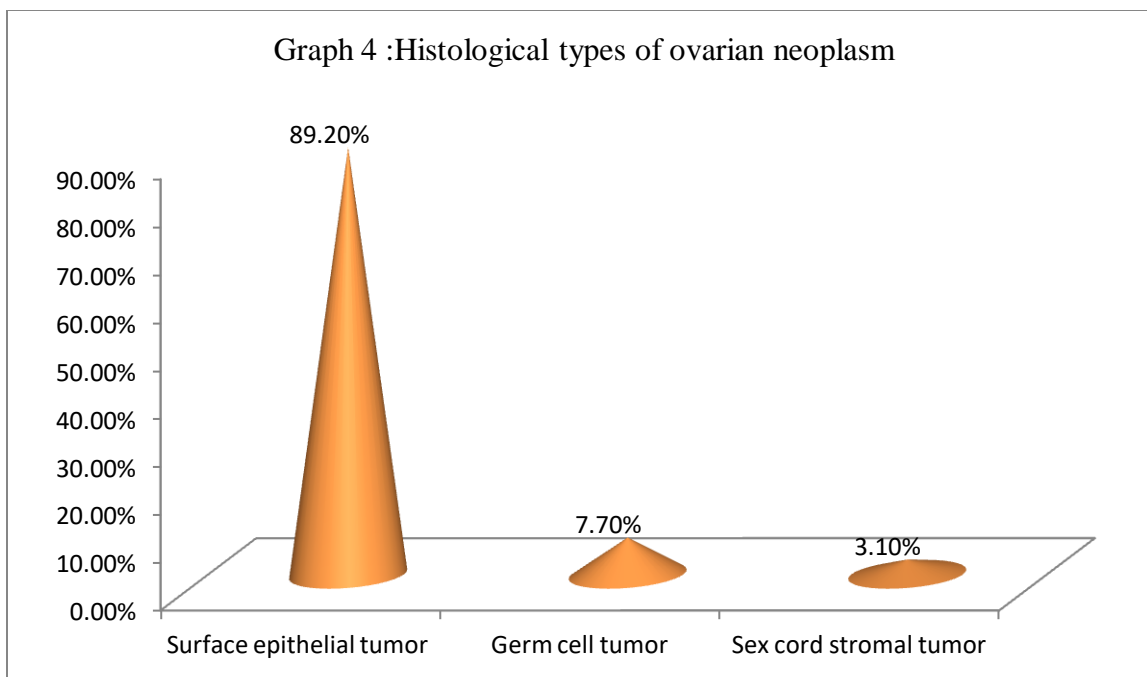


Graph 2 : Clinical presentation



Graph 3 :Distribution of age groups





**Table 1:**

Study	Benign cases	Malignant cases
SK abdullah et al	65.57%	29.5%
Sachin et al	52%	42%
Present study	43.1%	56.9% *

\* Since our study was done at hospital having oncology center, we have more number of malignant cases as compared to other studies.

**Table 2:**

Study	Surface epithelial tumors	Germ cell tumors
SK abdullah et al	73.11%	19.6%
Sachin et al	74%	16%
Raka et al	64.5%	27%
Present study	89.2%	7.2%

**Table 3:**

Study	Abdominal pain	Abdominal mass
SK abdullah et al	60.5%	45.9%
Sudha V et al	35.8%	27.3%
Present study	44.6%	36.9%