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# A CLINICO-HISTOPATHOLOGICAL STUDY OF INCIDENCE OF OVARIAN TUMORS: TWO YEAR STUDY

**Pathology**

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## ABSTRACT

Ovarian tumors are group of neoplasm affecting ovary and have diverse spectrum of histopathological features. The aim of the study is to determine the frequency of ovarian tumor and its distribution according to cell of origin, age group and clinical presentation. **Material method-** All solitary and part of Pan-hysterectomy specimen received to the department of Pathology, katihar medical college katihar, during January 2021 to December 2022 were included in the study. The specimen was fixed in 10% formal saline, processed and paraffin block were prepared, section of 4 mm thickness were cut and stained with hematoxylin and eosin stain. **Result-** Total 150 cases of ovarian tumors were received. Out of 150 cases, 133 cases (88.66%) were benign, 2 cases (1.33%) were borderline and 15 cases (10%) were malignant. On histopathological typing/grading commonest were Surface Epithelial tumor 109 cases (72.66%), followed by Germ Cell tumor 31 cases (20.66%), Sex cord stromal tumor 8 cases (5.33%) and metastatic tumor 2 cases (1.33%). **Conclusion-** Ovarian tumors are generally difficult to detect until they are very advance in stage or size, as the symptoms are vague and manifest over time. So correct histopathological diagnosis of ovarian tumor is of outmost importance for determining management and prognosis.

## KEYWORDS

Ovarian Tumor, Surface Epithelial Tumor, Germ Cell Tumor, Sex-cord Stromal Tumor

## INTRODUCTION

The ovaries are a pair of organ in the female reproductive system that produce an ovum and also Secrete hormones that play a role in the menstrual cycle and fertility.

Ovarian tumors are group of neoplasm affecting the ovary and have diverse spectrum of histopathological features, because under normal circumstances this organ has a wide variety of cell types including some that are multipotent to totally potent.

Ovarian neoplasm makes for 3% of all cancers; [1] and accounts for 25% of all genital tract tumors. [2] Ovarian cancers rank among the top five most frequent type of cancer in women. [3] This variation is second most prevalent among Indians (10.3 per 100,000). [4] Ovarian tumors that present in the reproductive age group are mostly benign while 30% in the postmenopausal age group are malignant. [5]

Mostly ovarian tumors are more prevalent in the upper socioeconomic groups and are seen predominantly after 3rd decade. [6]

The life time risk of ovarian cancer in a women with no family history is 1.6%, and with one affected first degree relative is 5% and 7% with two or more affected first degree relatives. [7]

Ovarian tumors commonly present with abdominal pain and a lump or menstrual irregularities. [8]

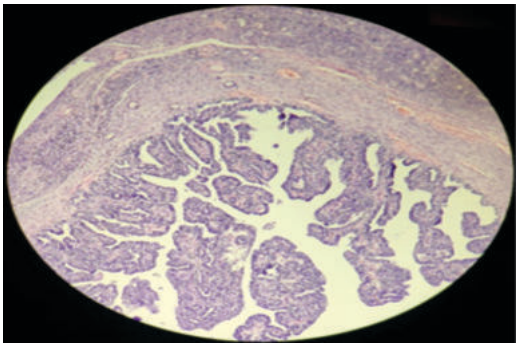

**Figure 1: Serous Cystadenocarcinoma**

## MATERIAL AND METHOD

The hospital based observational study was conducted in the department of Pathology, Katihar medical college, Katihar. The study included 150 cases of ovarian tumor/mass referred from the obs and gynae department at katihar medical college, Katihar over the course of 2 years.

**Inclusion Criteria –**

All the resected specimen received as solitary or as a part of Pan-hysterectomy in the laboratory was included in the study.

**Exclusion Criteria –**

The normal ovaries and ovaries with other finding such as cystic follicle, follicular cyst, surface epithelial inclusion cyst and ectopic gestation was excluded from the study.

All specimen were promptly placed in 10% formalin for the least 24 hours. The specimen's external characteristics was recorded and several representative sections was obtained for standard processing. Hematoxylin and eosin was used to stain 4 micrometer paraffin embedded section (H & E).

**Table: 1. Type Wise Distribution Of Ovarian Masses.**

| Type | Frequency | Percentage |
|---|---|---|
| Neoplastic-Benign | 133 | 88.7 |
| Neoplastic -Malignant | 15 | 10.0 |
| Borderline | 02 | 1.3 |
| Total | 150 | 100.0 |

## RESULT

Total 150 cases of ovarian tumors were received. Out of 150 cases, 133 cases (88.66%) were benign, 2 cases (1.33%) were borderline and 15 cases (10%) were malignant. On histopathological typing/grading commonest were Surface Epithelial tumor 109 cases (72.66%), followed by Germ Cell tumor 31 cases (20.66%), Sex cord stromal tumor 8 cases (5.33%) and metastatic tumor 2 cases (1.33%).

## DISCUSSION

According to the present study 88.66% were benign, 1.33% borderline and 10.0% malignant. Gupta et al. reported 72.9% benign, 4.1% borderline and 22.9% malignant tumors. [9]

One study by Jelovac and Kupesic (2002) found that out of 400 cases of ovarian masses, 68.5% were benign, 22.5% were malignant, and 9% were borderline. This is in contrast to the current study where a larger proportion of cases were identified as benign (88.7%), with a smaller proportion being malignant (10.0%) and borderline (1.3%).

There were 73 cases of serous tumor with 67 cases (44.7%) classified as benign serous cystadenoma, 1 case (0.7%) as borderline and 4 cases (2.7%) as malignant serous cystadenocarcinoma. Additionally there is 1 case(0.7%) of serous cyst adenofibroma.

There are total 36 cases of mucinous tumor with 33 cases(22.0%) benign, 1 case (0.7%) borderline and 1 case(0.7%) as malignant.

Clear cell carcinoma constitutes 1 case (0.7%).The remaining subtypes, endometroid tumor, benners tumor and malignant mixed mullerian tumor had no reported cases.

There were a total of 31 case of germ cell tumor. Among malignant subtype there were two cases (1.3%) of dysgerminoma, 1 case(0.7%) of yolk sac tumor,m 1 case (0.7%) mix germ cell tumor and 1 case(0.7%) of immature teratoma.

Among the benign subtype there were 24 case (16%) of mature cystic teratoma and 1 case (0.7%) of struma ovarii.

Germ cell tumor was second major group of tumor in this study (20.66%) and 23.1% in study conducted by Mondal sk et al. [10]

There was one case (0.7%) of granulosa cell tumor and 2 cases (1.33%) of metastatic tumor.The most common clinical symptom was abdominal pain followed by abdominal mass.

31-40 year age group (50%) was the most affected followed by 41-50 year age group (44%). There were two cases in >50 year age group, both of them were reported as serous cystadenocarcinoma. There were 6 cases (4%) in 25-30 year age group.

There was 1 case in under 25 year age group (13 year female with B/L ovarian tumor) that was reported as dysgerminoma.

This is consistent with a previous study by Zhang et al. (2019), [11] also found that the highest incidence of ovarian tumors occurred in women aged 30-49 years.

## CONCLUSIONS

Majority of were benign followed by malignant then borderline. Surface epithelial tumor were the commonest followed by germ cell tumors. Majority of benign cases were seen in 25-40 year of age group and malignant in later menopausal age group. Correct histo pathological diagnosis of ovarian tumor is of outmost importance for determining management and prognosis.

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