

## A RETROSPECTIVE STUDY OF CLINICO-PATHOLOGIC PATTERNS, IN WOMEN BELOW 40 YEARS, WITH OVARIAN CANCER

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2023; 5 (4); 74-76**Abstract**

**Background:** The present study is a Prospective study of clinico-pathologic patterns, in women 40 years and below, with ovarian cancer. undertaken in Srinivasan Medical College Hospital and Research Centre over a period of 36 months. **Inclusion Criteria:** Patients  $\leq$  40 years with histologically proven ovarian cancer and Primary ovarian cancers. **Exclusion Criteria:** Patients above age 40 years, those who did not have cancer ovary on final histopathology, Patients who were treated with chemotherapy only and not operated. 115 patients were retrospectively enlisted for our study out of which 93 could fulfil our inclusion criteria. **Results & Conclusion:** Even in women 40 years and less, 70 % of the ovarian tumors were epithelial in histological type. Serous ovarian cancer was the most common. Germ cell tumor constituted 20 % of the ovarian cancers. Mixed malignant germ cell tumor was the commonest type. The mean overall survival was 5.4 years. The overall survival was 87%. For epithelial tumors it was 82 % and for non-epithelial tumors it was 96 %. For early stage disease it was 100 % but for advanced stages it was 73 %.

## INTRODUCTION

Cancer of the ovary is the most fatal of all female gynecological cancers. Worldwide, it is the 7th most common cause of death in the female. In India, it is the third most common cancer affecting women, next to cancer of the breast and cervix. Although most of the literature combines clinical features and treatment of epithelial and non-epithelial tumors, these need to be studied separately. It is also not clear how often epithelial tumors effect young women and whether the bi-modal age distribution clearly separates out epithelial and non-epithelial tumors, hence the aim and objective of this study was to evaluate the clinico-pathological features and survival outcome of women 40 years and younger with ovarian cancer treated at a tertiary care hospital in India.

**Aims and Objectives**

1. To look at the clinico-pathologic patterns, in women 40 years and below, with ovarian cancer.
2. To compare the survival outcome of epithelial and non-epithelial cancer in young women.
3. Study Design: This was a hybrid of a retrospective and prospective design. Survival analysis was done for the primary outcomes and a cohort design was used for assessing risk factors.

## MATERIALS AND METHODS

**Study Design:** This was a hybrid of a retrospective and prospective design. Survival analysis was done for the primary outcomes and a cohort design was used for assessing risk factors.

**Inclusion Criteria**

Patients with all of the features below were selected.

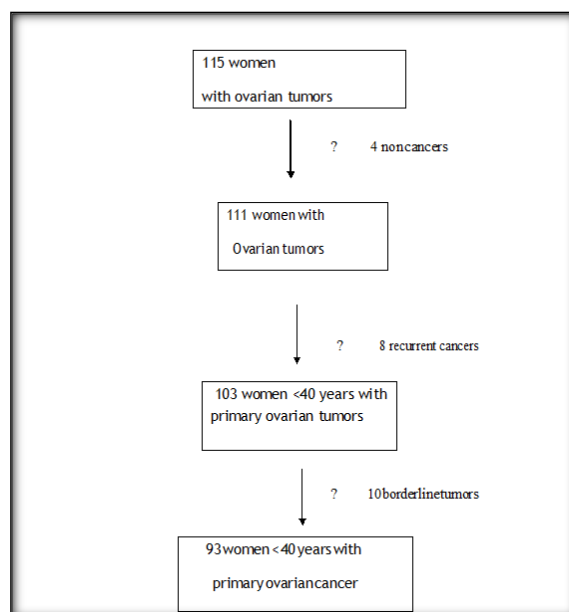
1. Patients  $\leq$  40 years with histologically proven ovarian cancer
2. Operated in between January 2019 and December 2022.
3. Primary ovarian cancers

**Exclusion Criteria**

Patients with any of the features below were excluded.

1. Patients above age 40 years
2. Those who did not have cancer ovary on final histopathology
3. Patients who were treated with chemotherapy only and not operated.
4. Those who were operated elsewhere
5. Those who had ovarian tumors secondary to cancers from other organs

115 patients were retrospectively enlisted for our study out of which 93 could fulfil our inclusion criteria.



**Flow chart of patient recruitment**

## RESULTS

115 patients were retrospectively enlisted for our study out of which 93 could fulfil our inclusion criteria.

**Table 1: Histological Distribution of the study patients**

Histopathological pathological classification (n=111)	Frequency	Percent	Notes
Epithelial	79/111	71	
Serous	31	28	2 with sarcomatous Changes
Mucinous	23	21	2intestinal Subtypes
Endometrioid	11	10	
Cell Clear	2	1.8	
Not specified	2	1.8	
Non epithelial	32	29	
<i>Germ cell tumours</i>	21	18.9	
Mixed GCT	9	8.1	
Immature teratoma	5	4.5	
Yolk sac	4	3.6	
Dysgerminoma	3	2.7	
<i>Sex cord stromal</i>	7	6.3	
Granulosa	3	2.2	
sertoli-leydic	2	1.8	
Gynandroblastoma	1	0.9	
Androgensecretingtumor	1	0.9	
<i>Others</i>	4	3.6	
Metastatic	2	1.8	
Hemangio-endothelioma	1	0.9	
Granulocytic sarcoma	1	0.9	
Borderline	10	9	4 serous,6mucinous

Note: Description done on the initial 111 patient with ovarian tumor.

Looking at the 111 patient with ovarian tumor 79(71.1%) patients had epithelial tumour, with the following cell types: serous 31, mucinous 23, endometrioid 11, clear cell 2 and adenocarcinoma not otherwise specified 2.

Of the 111 ovarian tumours, 10 were borderline tumors (9 %); 4 of these were serous and 6 were mucinous. There were a total of 7 sex cord stromal tumors (6.3%): 3 granulosa cell tumors, 2 sertoli leydig cells, one gynandroblastoma an one androgen secreting tumor that was not otherwise specified. There were a total of 21 germ cell tumors (18.9%): 9 were mixed germ cell tumors, 5 immature teratoma , 4 yolk sac, and 3 dysgerminoma,

There were two metastatic tumors, and two other tumors namely a granulocytic sarcoma and a Hemangioendothelioma.

The median age of the patients was 32 years with a range of 13 to 40.

**Table 2: Tumour Types distribution**

Tumor	Frequency	Percent %
Epithelial tumour	64	69.6
Non-epithelial tumour	28	30.4
Total	92	100

**Table 3: Histological type distribution**

Histology	Frequency	Percent
Epithelial	64	68.8
Sex cord Stromal	4	4.3
Germ cell	21	22.6
Other	4	3.2
Total	93	100

Other includes: 1. Granulocytic sarcoma of ovary 2. Hemangioepithelioma For secondary treatment of the disease 5 had surgery, 23 had chemotherapy, 1 had radiotherapy, 1 (androgen secreting tumor), and 31 patients did not have secondary treatment with us.

**Table 4: Grade of tumour**

Grade	Frequency	Percent%
Well Differentiated	15	16.1
Moderate	13	14.0
Poor	21	22.6
Not described	44*	47.3
Total	93	100

\*Many serous tumours did not have grading as they are assumed to be high grade by its very nature. Sex cord and germ cells tumours are usually not graded.

## DISCUSSION

In our study, epithelial cancers were seen in 69%. The commonest histological type was serous cystadenocarcinoma (28%). Germ cell tumours constituted 23 % of cases.

In an Indian study done (16) a study to look at the histologic pattern, bilaterality and clinical evaluation of 957 ovarian neoplasm done over a period of 10 years in eastern India, in all age group, the most common histological type was serous cystadenoma (30%), followed by mature teratoma (16%) and mucinous cystadenoma (11%). As in our study, epithelial tumors formed 61% of their cases. Serous cystadenoma too was the most common malignant tumor.

## CONCLUSION

1. Even in women 40 years and less, 70 % of the ovarian tumors were epithelial in histological type. Serous ovarian cancer was the most common.
2. Germ cell tumor constituted 20 % of the ovarian cancers. Mixed malignant germ cell tumor was the commonest type.
3. The mean overall survival was 5.4 years. The overall survival was 87%.
4. For epithelial tumors it was 82 % and for non-epithelial tumors it was 96 %. For early stage

disease it was 100 % but for advanced stages it was 73 %.

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