

# A Clinicopathological Study of Malignant Ovarian Tumors in India

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## ABSTRACT

Ovarian cancer is the leading cause of death from gynecological cancer.

**Material and method:** Surgical staging of all cases of ovarian cancer were done.

**Result and conclusion:** Of the 50 cases of ovarian tumors operated 44% were malignant. duration of symptoms was 1 month or less in majority of patients. Bilaterality was found in 27.3% of tumors. The most common histotype was serous. Early diagnosis and treatment can reduce the morbidity and mortality if the clinician keeps this in mind.

**Keywords:** Ovarian tumor, Malignant, Symptom.

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## INTRODUCTION

Ovarian cancer is the leading cause of death from gynecological cancer. Ovarian cancer is fifth leading cause of death among the women World over. It is third leading cancer among Indian women after cervical and breast cancer. The age adjusted incidence rates of ovarian cancer vary between 5.4 and 8 per 100,000 population in different parts of the country.<sup>1</sup> The overall 5-year survival rate is approximately 45%, due to late stage at diagnosis of the disease. India with its 1 billion population has a huge burden of the disease. Most of the ovarian cancers are initially operated by general gynecologists since trained gynecologist are very few in our country. Advance stage of disease at the time of diagnosis, inappropriate management, and poor compliance to therapy all together are responsible for the dismal survival rates.

## MATERIALS AND METHODS

Laparotomy with midline or extended midline incision was done in all cases. Peritoneal fluid was collected in all cases for cytological study.

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Surgical staging was done. Surgical approach was individualized. Appropriate surgery, ranging from unilateral salpingo-oophorectomy to total abdominal hysterectomy and bilateral salpingo-oophorectomy with omentectomy was done in each case based on age, parity, and staging of the tumor.

The pelvic and para-aortic lymph-nodes were evaluated and enlarged ones were resected.

The other operative findings recorded were tumor size, gross appearance, cut surface, presence of ascites and sites of extraovarian involvement.

Histological study was done in our pathology department. International Federation of Gynecology and Obstetrics staging of ovarian cancer was done. Classification of all histological diagnosis was based on World Health Organization histological classification of ovarian tumors. Postoperative chemotherapy was given on the basis of staging and tumor type. All cases were followed-up.

## RESULTS

Of the 50 cases of ovarian tumors diagnosed and operated, 22 (44%) were malignant. Most of them (77.3%) occurred in the reproductive age group (Table 1), while 13.6% occurred in postmenopausal women. Nulliparity was associated with 27.3% of malignant tumors.

The mean age of presentation in malignant tumors was 41 years.

Duration of symptoms was 1 month or less in majority (54.6%) of malignant tumors.

The malignant tumors presented with abdominal distention (73%) (Table 2), abdominal pain (52%), constitutional (21.5%) and gastrointestinal symptoms (10.5%). Ascites were found in 40.9% of malignant tumors and of them 88.9% were in stages III and IV. At the time of diagnosis, 68.2% malignant tumors were in stages III and IV.

Bilaterality was found in 27.3% of tumors.

The most common histotype was serous (Table 3) cystadenocarcinoma (45.5%), followed by mucinous cystadenocarcinoma (27.3%).<sup>2</sup>

The diameter was 12.6 cm. Mucinous cystadenocarcinoma had the largest mean diameter (23 cm).

The lesions were cystic in 18.2%, solid in 22.7% and variegated in 59.1% cases. Serous cystadenocarcinoma constituted for majority of cystic lesions.

**Table 1:** Distribution of age parity and duration of symptoms

	Benign	Malignant	Total
<b>Age groups</b>			
1. Premenarchal		2 (9.1)	2
2. Reproductive	26	17 (77.3)	43
3. Postmenopausal	2	3 (13.6)	5
<b>Parity</b>			
1. Nulliparous	11	6 (27.3)	17
2. Multiparous	17	16 (72.7)	33
<b>Duration of symptoms</b>			
1. <1 month	14	12 (54.6)	26
2. 1-6 months	12	7 (31.8)	19
3. >6 months	2	3 (13.6)	5

**Table 2:** Presenting features of malignant tumors

Presenting features	Malignant tumors	
	Number	%
Abdominal distention	14	63.6
Abdominal mass	2	9.1
Abdominal pain	10	45.5
Gastrointestinal	2	9.1
Gynecological	2	9.1
Urinary	2	9.1
Constitutional	4	18.2
Asymptomatic	0	0
Ascites	9	40.9
Stages I and II (31.8%)	1	11.1
Stages III and IV (68.2%)	8	88.9

**Table 3:** Histological features<sup>2</sup>

	No. of cases	Mean age (years)	Mean size (cm)	Consistency			Multilocularity	Bilaterality
				Solid	Cystic	Variegated		
Malignant tumors	22	41	12.6	5 (22.7)	4 (18.2)	13 (59.1)		6 (27.3)
Serous	10 (45.5)	46.7	8.2	1	3	6	6	3
Mucinous	6 (27.3)	41	23	–	1	5	5 (68.7)	1
Brenner	1 (4.5)	50	12	1	–	–		
Metastatic	2 (9.1)	42.5	10	2	–	–		
Dysgerminoma	1 (4.5)	14	5	1	–	–		
Endodermal sinus tumor	1 (4.5)	13	15	–	–	1		
Mixed germ cell tumor	1 (4.5)	28	6	–	–	1		

Figures in parentheses show the percentage among malignant tumors

Among serous and mucinous cystadenocarcinoma, multilocularity was observed in 68.7% cases.

## DISCUSSION

Various studies on malignant ovarian tumors are found in literature. Scully et al<sup>3</sup> described about two-third of ovarian tumors in reproductive age group and less than 5% in children.

Odugogbe et al<sup>4</sup> reported that 19% of ovarian tumors were among nulliparas and 47.6% among grand multiparas.

Saeed et al<sup>5</sup> found no correlation with parity in malignant ovarian tumors. Population-based studies are required to find the association of parity with ovarian cancer.

Chan et al<sup>6</sup> found abdominal pain, distention and mass as common presentations in malignant tumor. Only 10% of malignant tumors were asymptomatic in their study.

Dorigo et al<sup>7</sup> described menstrual abnormalities in 15% of cases.

Shen-Gunther and Mannel<sup>8</sup> found ascites in 42% cases. Among malignant tumors, ascites were present in 17% in early stage and in 89% in advanced stage.

Goff et al<sup>9</sup> found 70% of ovarian cancer in stages III and IV at the time of diagnosis.

The present study found incidence of malignant tumors similar to those found by Di Bonito et al<sup>10</sup> (33.3%) and Ahmad et al<sup>11</sup> (40.18%).

Krigman et al found incidences of epithelial, germ cell, and metastatic tumors to be 59, 28 and 2% respectively. Padubidri and Daftary<sup>12</sup> found the respective incidences to be 80, 15 and 5%. The present study, with values of 77.3, 13.5 and 9.1% respectively, matched closely with those of Padubidri and Daftary.

Krigman and Padubidri also found serous tumors to be most common (46% and 50% respectively) followed by mucinous tumors (36% and 15%, respectively).

Okugawa et al<sup>13</sup> found mean age of malignant tumor to be 51.9 years. The mean age in present study was 1 decade younger.

Okugawa et al<sup>13</sup> also found the mean diameter of malignant tumor to be 13.6 ± 6.5 cm.

Krigman et al found mucinous tumors to be the largest with diameters often more than 30 cm.

Padubidri et al<sup>12</sup> described serous cystadenocarcinoma to be the most common cystic ovarian malignancy.

Bhatia et al<sup>14</sup> found solid, nodular and irregular shapes commonly associated with malignant tumors. They also found malignant lesions often to be multilocular with thick walls, septae and solid areas.

Udea et al<sup>15</sup> reported bilaterality in 20% of malignant tumors.

The present study matched with demographic, clinical and histopathologic features of most other studies on malignant ovarian tumors in literature.

### SUMMARY AND CONCLUSION

Out of 50 cases of ovarian tumors, 22 cases (44%) cases were malignant. The malignant tumors were commonly found in the reproductive age group (77.3%). The mean age of presentation was 41 years. The commonest modes of presentation were abdominal distention (73%) and abdominal pain (52%). The most common histotype was serous cystadenocarcinoma (45.5%). At the time of diagnosis, 68.2% of malignant tumors were in stages III and IV.

Benign ovarian neoplasms are more common than malignant ones. The most common benign ovarian neoplasm is serous cystadenoma and the commonest malignant neoplasm is serous cystadenocarcinoma. The prevalence of malignant ovarian neoplasms increases with increasing age.

Early diagnosis and treatment can reduce the morbidity and mortality if the clinician keeps this in mind.

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