

Clinical Profile of Patients Presenting with Ovarian Tumors at a Tertiary Care Teaching Hospital in Jharkhand, India

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ABSTRACT

Introduction: Ovary is a common site for tumors, both benign and malignant which causes great morbidity and mortality. The study was undertaken to analyse the clinical profile and histologic pattern of ovarian tumors.

Material and methods: A prospective observational study of cases presenting with ovarian tumors was done over a period of 14 months from December 2016 to January 2018.

Results: Ovarian tumors accounted for 3.32% of all gynecologic admissions (68/2045) during the study period. There were 50 benign (73.52%) and 18 malignant tumors (26.47%). Age of patients ranged from 12-72 years. Most of the cases were in the reproductive age group. Surface epithelial tumors dominated other types (81.25%). Mucinous cystadenoma was the commonest (35.93%) benign tumor followed by serous cystadenoma (23.43%), dermoid cyst (15.6%) and granulosa cell tumor (1.56%). Commonest malignant tumor was serous cystadenocarcinoma (15.6%), followed by mucinous cystadenocarcinoma (6.25%) and Krukenberg tumor (1.56%). Clinical symptoms and signs were vague but were present for more than one year in majority. Significant number of malignant tumors presented at earlier age (30-50 years) and in later stages (stage 3).

Conclusion: Among malignant tumors, younger age of presentation, relatively long duration of symptoms for more than 1 year, and advance stage of disease was more common. This emphasizes the need for early attention to symptoms and signs and proper evaluation with detailed investigations for exclusion of ovarian malignancy in all age groups.

Keywords: Ovarian Tumors, Benign, Malignant, Clinical Profile, Ovarian Neoplasm.

INTRODUCTION

Ovarian tumors are notorious silent killers as they escape attention in early stage due to their anatomical location and are often not noticed until they have achieved a huge size.¹ Ovarian tumors represent a range of pathology from benign mass through tumors of borderline malignant potential to invasive cancers. Ovarian malignancy is the sixth most common cancer and the seventh most common cause of cancer deaths in women globally.² In most population-based registries in India, ovarian cancer is the third leading site of cancer among women, trailing behind cervix and breast cancer.³ Ovarian cancer has emerged as one of the most common malignancies affecting women in India and has shown an increase in the incidence rate over the years.⁴ The lack of specific symptoms, effective screening and early diagnostic techniques make ovarian cancer a highly deadly malignancy.⁵ Majority of the ovarian cancers are

epithelial cancers. The present study was undertaken to analyse the clinical profile and histologic pattern of ovarian tumors.

MATERIAL AND METHODS

This is a prospective observational study, conducted in the Department of Obstetrics and Gynecology, Rajendra Institute of Medical Sciences, Ranchi, a tertiary care teaching hospital in Jharkhand, India, from December 2016 to January 2018 over a period of 14 months. All patients attending Gynecology OPD or admitted through the emergency, diagnosed to have ovarian tumor clinically on basis of history, abdominal and pelvic examination and confirmed on ultrasonography were included. Demographic profile including age, parity and socioeconomic status were noted. A detail of symptoms was asked from the patients which included abdominal pain, abdominal mass and abdominal enlargement. Gastrointestinal symptoms recorded were nausea, vomiting and constipation, constitutional symptoms like loss of appetite and weight, urinary symptoms like increase in urinary frequency and chest symptoms like dyspnoea were also recorded. Routine investigations like complete blood count, biochemical (renal function tests and liver function tests) and common tumor marker like CA -125 was done for all patients. Further investigations like CT scan, MRI and FNAC and other tumor markers were done as and when indicated.

During the study period, a total of 68 cases of ovarian tumors presented to the institution. Out of these, 3 patients were found to be advanced ovarian malignancy which were inoperable, hence referred to oncology department for neoadjuvant chemotherapy. One patient died preoperatively due to advanced disease and due to associated co-morbidities. For the remaining 64 patients, staging laparotomy was done, and specimen was sent for histopathological examination in all cases. Ovarian tumors were grouped into benign and

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How to cite this article: Archana Kumari, Nidhi Singh. Clinical profile of patients presenting with ovarian tumors at a tertiary care teaching hospital in Jharkhand, India. International Journal of Contemporary Medical Research 2020;7(7):G5-G9.

DOI: <http://dx.doi.org/10.21276/ijcmr.2020.7.7.2>



malignant on basis of clinical features, ultrasound or CT findings and as confirmed on histopathological examination after laparotomy.

RESULTS

A total of 68 patients of ovarian tumors were included in the study. During the study period, total number of Gynecology admission was 2045 (1761 from OPD and 284 from emergency). Hence, the incidence of ovarian tumors turns out to be 3.32% of all gynecologic admissions. Out of total 68 patients, 50 (73.52%) were benign tumors and 18 (26.4%) were malignant tumors.

Patient profile: Demographic profile of all 68 cases of ovarian tumors is shown in Table 1. Most of the benign tumors (62%) occurred between 20-40 years and majority of the malignant tumors (50%) presented between 41-50 years. Overall highest incidence of ovarian tumor was found in age group of 31-40 years followed by 41-50 years in 28% and 26.4% respectively. Both benign and malignant tumors were more common in multipara patients, 72% and 67.6% respectively.

Clinical features: Table 2 shows that the clinical presentations of patients with benign and malignant tumors were alike but frequency differed in both groups. Many patients had more than one symptom. Among malignant tumors the most common symptoms noted were abdominal enlargement in 88.8% and abdominal pain in 77.7% of cases. The most common symptoms among benign group were also the abdominal pain observed in 70% and abdominal enlargement in 40% of cases. Gastrointestinal symptoms like nausea and vomiting were present in both groups, but more common in malignant tumors (66.6%) than in benign tumors (32%). The occurrence rate of constitutional symptoms like loss of appetite and weight loss were high among malignant group observed in 77% and 83.3% cases respectively, but these symptoms were absent in the benign group.

Table 3 shows that in 55% of patients with malignant tumors, the symptoms had been present for more than 1 year, in 27.7% for more than 6 months and in only 16.6% for less than 6 months. Among benign tumors, 36% had symptoms present for less than 6 months and 46% had symptoms for more than 1 year.

Age group	Benign (n=50)		Malignant (n=18)		Total (n=68)	
	No.	%	No.	%	No.	%
<20	7	14	1	5.5	8	11.7
21-30	14	28	1	5.5	15	22
31-40	17	34	2	11.1	19	28
41-50	9	18	9	50	18	26.4
51-60	3	6	4	22.2	7	10.2
>60	0	0	1	5.5	1	1.4
Parity						
Nullipara	8	16	5	27.7	13	19.1
Primipara	6	12	3	16.6	9	13.2
Multipara	36	72	10	55.5	46	67.6

Table-1: Demographic profile of patients (n=68)

Symptoms	Benign (n=50)		Malignant (n=18)		Total (n=68)	
	No.	%	No.	%	No.	%
Asymptomatic	7	14	2*	11.1	9	13.2
Abdominal enlargement	20	40	16	88.8	38	55.8
Abdominal pain	36	72	14	77.7	50	73.5
Abdominal mass	12	24	11	61.1	33	48.5
Nausea and vomiting	16	32	12	66.6	28	41.1
Constipation	8	16	13	72.2	21	30.8
Loss of appetite	0	0	14	77.7	14	20.5
Weight loss	0	0	15	83.3	15	23.4
Increased frequency of micturition	17	34	6	33.3	23	35.9
Dyspnea	10	20	12	66.6	22	32.3

*2 patients in the malignant group who were asymptomatic had presented after receiving 4-5 cycles of chemotherapy.

Table-2: Clinical features of ovarian tumors (n=68)

Symptoms	Benign (n=50)		Malignant (n=18)		Total (n=68)	
	No	%	No.	%	No.	%
<6 months	18	36	3	16.6	21	30.8
6 mts-1 yr	11	22	5	27.7	16	23.5
>1 year	23	46	10	55.5	33	48.5

Table-3: Duration of symptoms (n=68)

Tumor type	Total (n=64)		Benign		Malignant		Bilateral	
	No.	%	No.	%	No.	%		%
Serous Tumors	25	39.07	15	23.43	10	15.6	13	52
Mucinous Tumors	27	42.18	23	35.93	4	6.25	5	18.5
Dermoid Cyst (Mature Teratoma)	10	15.6	10	15.6	-	-	2	20
Krukenberg Tumor	1	1.56	-	-	1	1.56	1	-
Granulosa Cell Tumor	1	1.56	1	1.56	-	-	-	-

Table-4: Histopathological pattern of ovarian tumors (n=64)

Stage	Number (%)
Stage I	2 (11.1%)
Stage II	4 (22.2%)
Stage III	11 (61.1%)
Stage IV	1 (5.5%)

Table-5: Staging of malignant ovarian tumors (n =18)

Authors	Present study	Soumini G et al ¹⁸	Bista KDB ²⁰	Jaffar Y et al ¹⁷	Muhabat Q et al ¹
Place of study	RIMS, Ranchi	Rajgaraya Med Coll, Kakinada, India	Tribhuvan Univ Teaching Hosp, Kathmandu	Sandeman Provincial Teaching Hosp, Quetta	Aga Khan Maternity & Child Hosp, Pakistan
Period of study	Dec 2016 – Jan 2018	Sep 2009 – Aug 2014	April 2009 - 2012	Jan 2010 – Dec2010	-
No. of cases	68	404	451	65	97
Benign	73.52%	72.9%	82%	76.9%	79.3%
Malignant	26.4%	19.4%	14.9%	23%	20.6%

Table-6: Comparison with other studies regarding incidence of benign and malignant ovarian tumors

Types of ovarian tumors: Table 4 shows the types of ovarian tumors found on laparotomy and later confirmed by histopathology. Surface epithelial tumors dominated other types 52/ 64 (81.25%), followed by germ cell 10/64(15.6%), one case of granulosa cell tumor (1.56%) of secondary ovarian malignancy, Krukenberg tumor. The most common benign tumor was mucinous cystadenomas 23 out of 64 cases (35.9%) followed by serous cystadenomas 15 out of 64 cases (23.4%) and mature teratomas/dermoid cysts in 10 out of 64 cases (15.6%) and one case of granulosa cell tumor (1.56%). Serous cystadenocarcinoma was the most common malignant tumor in 10 /64 (15.6%) cases, followed by mucinous cystadenocarcinoma in 4/64 (6.2%) cases and one case (1.56%) was Krukenberg tumor. Table 4 also shows the frequency of being bilateral of ovarian tumors. Out of total 27 mucinous tumors, only 5 cases (18.5%) were bilateral whereas out of 25 serous tumors, 13 cases (52%) were bilateral. Mature teratomas were bilateral in 20%.

Table 5 shows the staging of malignant tumors. Majority belonged to stage 3 in eleven out of 18 cases (61.1%), followed by stage 2 in 22.2%, stage 1 in 11.1% and stage 4 in 1case (5.5%).

Table 6 compares the result of the present study with other similar studies, especially with reference to incidence of benign and malignant tumors.

DISCUSSION

Insidious onset and progression of ovarian tumors is the outcome of usually vague and non-specific symptoms that may remain unrecognized for a long period of time. Diagnosis at early stage is extremely important but still

remains a challenge.⁶ Early stage disease which is limited to ovary and pelvis (Stage I and II) have 5 year survival rate of 80-95% while late stages (III and IV) involving upper abdomen and beyond have survival rate of only 20-30%.^{7,8} Ovarian tumors in present study included 49/68(72.05%) benign and 19/68 (27.9%) malignant tumors. Benign tumors were more common in 30-40 years and malignant tumors in 40-59 years age group, similar to studies of Ameena and Jha.^{8,9} This variance in age group being lower in Asians was also observed by Catherine K Fuh.¹⁰

Despite the high incidence and mortality rate, the etiology of ovarian cancer still remains to be understood. Established risk factors for ovarian cancer include extremes of age, family history of ovarian or breast cancer, while protective factors include oral contraceptive use and oophorectomy. Relative risk for ovarian malignancy increases significantly after the age of 40 years.^{11,12} An early menarche and late menopause are associated with increased risk.¹³ In the present study, both benign (72%) and malignant (55.5%) tumors were more common in multipara. There was no family history among malignant neoplasms in this study. Protective effects of multiparity, tubal sterilization and hysterectomy were also not significant in the present study.

Surgeries such as hysterectomy and tubal ligation were initially believed to provide weak protective effect.¹⁴ Recent studies have shown that women with ovarian preservation at hysterectomy were at risk of future oophorectomy, which ranges from 2.9% to 7.7%.¹⁵ Several studies have suggested that the fallopian tube may be site of origin of epithelial ovarian cancer. ACOG 2015 has endorsed this

view and suggested prophylactic salpingectomy instead of oophorectomy in at risk cases of ovarian cancer.¹⁶

Women with ovarian cancer experience abdominal, gastrointestinal and constitutional symptoms more as compared to those with benign tumors.¹⁷ In this study 13.2% patients were asymptomatic out of which 2 patients were those who had received 4-5 cycles of chemotherapy and at the time of presentation had no lump abdomen. The findings of clinical presentations of this study are similar to the results shown by other studies.^{1,17,18}

Delay in presentation is one of the biggest challenges of ovarian cancer and is responsible for the high mortality associated with this disease. In this study, overall 48.5% patients had symptoms for more than 1 year (55.5% of malignant tumors and 46% of benign tumors). This corresponds to the results of other similar studies.¹ Reasons in delay were vague and non-specific symptoms, illiteracy and poverty, ignorance and delayed referral. This clearly indicates the need to increase awareness among the general population to seek medical advice at the early stage even for non-specific symptoms and at the same time to sharpen the skill of peripheral health care providers for early identification of these non specific symptoms, which in turn may enhance timely referral to higher centre.

In present study, laparotomy was done on 64 patients as 3 patients who were considered inoperable due to advance stage disease were subjected to chemotherapy and one patient with advanced disease died preoperatively. Overall, surface epithelial tumors were commonest (81%) followed by germ cell tumors in 17%. Benign surface epithelial tumors were commonest 38/64 (59.3%) followed by malignant epithelial tumors 14/64 (21.8%). In study by Sk Mondal, the most common histological types were serous cystadenoma (29.9%), followed by mature teratoma (15.9%) and mucinous cystadenoma (11.1%), but in this study 42.18% were mucinous and 39.07% were serous cystadenomas, mature teratoma 15.6%.¹⁹ This diversity may reflect the geographical and ethnic variations, as epithelial ovarian cancer is a disease with pattern of heterogeneous distribution. 15.6% of serous and 6.2% of mucinous tumors were found to be malignant, none of the teratomas were malignant.

Late stage presentation was encountered in 66.6% (Stage III-IV) similar to other study.²⁰ Delay in presentation is an important cause of high mortality associated with the disease. Increasing awareness among women with disease and greater efforts by healthcare professionals might result in women presenting with less advanced disease and early treatment, leading to better outcome.

Compared to other similar studies, the percentage of malignant ovarian tumors was higher (26.4%) in our study. Our institute is the apex medical institute of the state of Jharkhand and receives many referrals for complicated cases, advanced ovarian cancer being one of them. High rates of illiteracy, ignorance about health care facilities and lack of awareness leads to delay in seeking help. In addition to this, the focus of the government being more on MCH services, these women take a back seat and are usually neglected.

Several limitations of this study deserve mention. This study is single institution based, the study group being small. Therefore, the results obtained may reflect the pattern of Jharkhand state but may not reflect the actual histological pattern and the age distribution of ovarian tumors in all Indian women.

CONCLUSION

Presentation of ovarian cancers was mostly vague and non specific but symptoms were definitely present. The incidence of malignant ovarian tumors being high in this institute with symptoms in the majority being present for more than one year, the recognition of symptoms therefore needs to be stressed for early diagnosis of ovarian tumors. There is need to increase awareness of population to seek care to health facilities and also the need to increase the skills of peripheral health workers to refer these patients at early recognition of symptoms and signs. Among malignant tumors, younger of age of presentation and advance stage of disease is more common, which emphasizes the need for proper evaluation along with detailed investigations for exclusion of malignancy in all age groups.

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Source of Support: Nil; **Conflict of Interest:** None

Submitted: 01-06-2020; **Accepted:** 21-06-2020; **Published:** 04-07-2020