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Clinical Profile And Pathology Of Ovarian Tumour

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ABSTRACT

Background. Ovarian cancer is the most common fatal cancer of the reproductive tract. In India , it stands second in order of malignancy of female genital tract. Reliable means for diagnosis has not yet been discovered. The location and the complex biology of ovary make diagnosis difficult. Methods. Forty cases of ovarian malignancy admitted in gynaecology ward of our institute during the period from January 2007 to March 2011. Most of these cases were referred to our hospital from peripheral centres while the rest were picked up from OPD. In the initial part of the work up a detailed history and physical examination was done followed by appropriate investigations. Patients with borderline malignancy have been excluded from this study. Their clinical profile and histopathology were analysed. Results. The most common presenting symptom was abdominal distension (84%) followed by abdominal pain (60.5 %). Commonest malignant tumour found was papillary serous cystadenocarcinoma (62.5%) followed by mucinous cystadenocarcinoma (17.5%) and least was immature teratoma (2.5%). 35 cases were put on chemotherapy, 30 cases completed 6 cycles, 17 patients received CAP regimen, 12 patients received Cisplatin + Cyclophosphamide (CP), 5 patients received paclitaxel + carboplatin and 1 patient received Bleomycin + Etoposide + Cysplatin(BEP). Conclusion. Percentage of malignant ovarian tumors among all gynaecological admission was 1.6 %. Abdominal distention / mass per abdomen /fullness was the most common presentation. The incidence of ovarian malignancy increases with age and peaks at 51-60 yrs. The incidence decreases as parity increases.

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1. Introduction

Ovarian cancer is the most common fatal cancer of female reproductive tract. In India it stands second in order of malignancy of female genital tract [1] the first being that of ca cervix. Fortunately, it is one of the most treatable solid tumors as majorities are sensitive to the anti cancer therapies. Despite advances made in treatment of ovarian cancer in recent years, the 5 years survival rate continues to be low (39 %), since more than 75% of cases are still being diagnosed at an advanced stage [2,3].

Reliable means for diagnosis has not yet been discovered. The location and the complex biology of ovary make diagnosis difficult. Ovarian cancer poses a major surgical challenge, requires intensive and often complex therapies and is extremely demanding of the patient's psychological and physical energy.

Ovarian malignancy offers a good field for research. So far, very little is understood about the natural history, risk factors and progression time from early to the advanced disease. There is a dearth of literature about the malignancy in India. Hence this attempt has been made to study the epidemiological factors, clinical aspects, various management options and their outcome in patients with this disease.

2. Materials and Methods

This is a clinical study among 40 cases of ovarian malignancies admitted in gynaecology ward of our institute from January 2007 to March 2011. Most of these cases were referred to our hospital from peripheral centers, while the rest were picked up from the OPD. In the initial part of the work up, a detailed history and physical examination was done and followed by appropriate investigations for the fitness of the surgery. All patient's CA-125 was estimated before the surgery. Patients with borderline malignancy have been excluded from this study. Out of 40 cases, 38 underwent staging laparotomy & 2 died before the surgery.

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35 cases were put on various standard regimens of chemotherapy. At the end of 6 cycles the responses was assessed by Physical examination, USG and were followed up every 3 months for 2 years. There after every 6 months they were followed up for the recurrence and the progression of the disease.

3.Results

Out of 40 cases studied, the highest incidence of carcinoma ovary was found between the age group 51-60 years, which was around 42.5 % affected. It was also noticed that parity also altered the occurrence of the ovarian carcinoma. 14 (35%) cases were detected in nulliparous, against para 4 and para-5 of 2(5%) each, as the parity increased the number of cases decreased (Table I).

Table I - Patient characteristics

	No of Cases
AGE-	
10-20	1(2.5%)
21-30	3(7.5%)
31-40	2(5%)
41-50	11(27.5%)
51-60	17(42.5%)
61-70	4(10%)
>70	2(5%)
PARITY	
Nulliparous	14(35%)
Para 1	10(25%)
Para 2	7(17.5%)
Para 3	5(7.5%)
Para 4	2(5%)
Para 5	
Socioeconomic Status	2(5%)
Low	18(45%)
Middle	15(37.5%)
upper	7(17.5%)

Out of 40 cases, 38 cases presented with chronic symptoms and 2 presented with acute symptoms. The most common presenting symptom was abdominal distention, which was seen in 84% of cases , next most common symptom was abdominal pain (60.5 %), the other prominent symptoms noticed were loss of appetite and G.I disturbances (Table II).

The malignant tumors were staged according to International Federation Of Obstetrics & Gynecology, 55 % cases had stage 3 disease, 32.5% had stage 4 disease and the results are shown in Table III.

TABLE II – Clinical presentation

Clinical Presentation	No. of Cases N = 38	%
Abdominal distention / mass per abdomen / fullness	32	84
Abdominal pain	23	60.5
Loss of appetite	12	31.5
Urinary symptoms (frequency / urgency/ retention)	5	13.15
G.I. Disturbances	12	31.5
Menstrual disturbances	2	5.26
Ascites	10	26.3
Pleural effusion	2	5.26

TABLE III- Distribution of cases according to FIGO stages.

Stage Of Disease	NO OF CASES	% OF CASES
STAGE 1	1	2.5
STAGE 2 a	0	
b	1	5
c	1	
STAGE 3 a	2	55
b	4	32.5
C	16	5
STAGE 4	13	
No of cases died before surgery	2	

Total number of ovarian tumors were 225, out of which 185 were benign 78.38% and 40 were malignant tumors 21.62%. The most common malignant tumor found was papillary serous cystadenocarcinoma 62.5% followed by mucinous cystadenocarcinoma 17.5% and least was immature teratoma 2.5% (Table IV). The relation to histologic type and age is shown in Table no V.

Out of 38 cases who underwent staging laparotomy, 35 received chemotherapy, 30 cases completed 6 cycles. 17 patients received CAP regimen, 12 patients received Cisplatin + Cyclophosphamide (CP) , 5 patients received Paclitaxel + Carboplatin and 1 patient received BEP. Out of 17 patients on CAP regimen ,Complete response was seen in 9 (52.19%) patients, partial response in 2 (11.76%) and progressive disease was seen in 6 (35.29%) of patients. Out of 12 patients on CP regimen,7(58.33%) patients had complete response,4 (33.33%) patients had partial response and 1(8.33%) patient had progressive disease. Out of 5 patients on Paclitaxel + Carboplatin regimen, 2 had complete response and 3 patient had progressive disease. The patient who was on BEP regimen, received 4 cycles of chemotherapy and lost to follow up.

TABLE IV- Histopathology

TYPE	NO. OF CASES	% OF TOTAL MALIGNANT OVARIAN TUMORS(40)	% INCIDENCE OF TOTAL OVARIAN TUMORS (185)
Papillary Serous Cystadenocarcinoma	25	62.5	13.5
Mucinous Cyst Adenocarcinoma	7	17.5	3.8
Endometrioid Carcinoma	2	5	1.1
Dysgerminoma	1	2.5	0.5
Granulosa Cell Tumour	2	5	1.1
Krukenberg Tumour	2	5	1.1
Immature Teratoma	1	2.5	0.5

TABLE V- Relation to histological type & age

Histologic Type	Age Group(yrs)							
	<10	11-20	21-30	31-40	41-50	51-60	61-70	>70
Serous Cystadenocarcinoma		25		62.5			13.5	
Mucinous Cyst Adenocarcinoma		7		17.5			3.8	
Endometrioid Dysgerminoma		2		5			1.1	
Granulosa Cell Tumour		1		2.5			0.5	
Krukenberg Tumour		2		5			1.1	
		2		5			1.1	
		1		2.5			0.5	

4. Discussion

The complex anatomy of ovary and its peculiar physiology, the constant cyclical changes from puberty to menopause gives to a number of cell types, each of which is capable of giving rise to complex varieties of tumors. This is hospital based retrospective study conducted in tertiary hospital, Pondicherry. Past four years data was collected and analyzed. Percentage of malignant ovarian tumors among all gynecology admission was 1.6%. Reported percentage of malignant ovarian tumors in the literature is 1.09% [4] and this correlates with our study.

Ovarian cancer is said to be a silent killer, as majority of patients do not have any significant symptoms until an advanced stage. The commonest presenting symptoms for the ovarian neoplasm were abdominal bloating, fullness, and pain. It was noted that these symptoms were present for long duration before the patient came for medical attention. In this study, 93% of patients

presented with chronic symptoms, of which bloating and fullness were the most prominent symptoms (84 %) . Abdominal pain, gastrointestinal disturbances like constipation followed by urinary symptoms like frequency , urgency and retention were also important symptoms observed. Two (5.26 %) patients presented with post menopausal bleeding, 10 (26.3%) patients had ascites while 2(5.26 %) had pleural effusion at the time of presentation. Similar findings were noticed in other studies [5,6].

Two patients presented with acute abdominal pain, one was found to have intestinal obstruction, on further examination, the patient was found to have bilateral ovarian tumors. Another patient presented with torsion of ovarian tumor, which later proved to be malignant. In this study, 17 (42.5 %) patients were in the age group of 51 – 60 yrs, 11 (27.5 %) patients in the age group of 41 – 50 yrs while 4 (10 %) were in the age group 61 – 70 yrs. From the critical observation of the data presented, it could be noticed that the incidence of ovarian malignancy increased with age and peaked at age group between 51 – 60 yrs and thereafter showed a sharp decline. The peak age reported varies between 30-60 years [4,6]

The other important epidemiological factors found in this study were the high nulliparity rates and low fertility of the women with ovarian neoplasm. In the present study, 14 (35 %) were nulliparous while 26 (65%) were multiparous. It can be inferred that as parity increases , the risk of ovarian malignancy decreases. Randhawa et al[5] noted ovarian malignancy in 42.5 % of nulliparous, 12.5 % in para 1 and zero percent in para 4. Number of reviews in literature has made similar findings [7].

Out of 40 patients with ovarian cancer, 25 (62.5 %) had Papillary serous cystadenocarcinoma & Mucinous cystadenocarcinoma was detected in 7(17.5 %) patients. Endometrioid, Granulosa cell 5%, and krukenberg tumor 5%. Dysgerminoma with immature teratoma was diagnosed in 2.5% of cases. In the two series presented below, Papillary serous cystadenocarcinoma was also the most common malignant ovarian tumor. This was followed by mucinous cystadenocarcinoma. Geetika et al[8] has reported an incidence of Granulosa cell tumor to the tune of 12.2 % . and Dysgerminoma to the tune of 4.7 % . Jagadeshwari et al[4] has noted a 5.2 % incidence of Krukenberg tumor (5% in the present study) .It can be concluded that a vast majority of ovarian carcinomas are epithelial origin predominantly serous type followed by mucinous.

Of all patients with Serous cystadenocarcinoma , 13 (52%) patients were in the age group of 51-60 yrs, 10 (40 %) were in the age group of 41-50 yrs. Seven patients had Mucinous cystadenocarcinoma ,among which 2 (28.5%) patients were in the age group of 61 – 70 yrs and 2 (28.5%) in 21-30 yrs. The youngest patient in this study was a 10 yr old girl with Immature teratoma while the oldest female was 80 yrs. Dysgerminoma was found in one 21 yr old female. Similar findings were note in other studies[9,10].

The majority of the patients having malignant ovarian tumors underwent FIGO surgical staging with Total abdominal hysterectomy with bilateral salphingo-ovariotomy with infra colic omentectomy. Chemotherapy was the most common adjuvant therapy given in our study. Incidence of serous cyst adenocarcinoma found to increase with age. Germ cell tumor were rare and were inversely related to the age. In the present study 55 % patients presented in stage III out of which 40 % were in stage IIIc, 32.5 % were in stage IV & 2.5% patients were detected in stage I. Out

of this, two of them were granulosa cell tumors detected when TAH was being performed for atypical endometrial hyperplasia, while one presented with torsion of ovarian tumor. Two patients were in stage II, one of which was a case of Immature teratoma. Randhawa et al 5 has reported 35 % patients in stage III, 30 % in stage I, 15 % in stage II and 12.5% in stage IV. From these studies and present study, it can be inferred that majority of patients present in the stage III and IV. Most of the malignant tumors were in the advanced stage. Two patients died before the surgery. The factors account for this were delayed treatment, mostly by the patients, histological type and malignant potential of the tumors. It was noted that dysgerminoma and germ cell tumors were often present in early stages, where as the papillary cyst adenoma usually seen in advanced stage.

Complete response with CAP regimen was seen in 52.94% patients, while 11.76 % had partial response, progressive disease was noted in 35.30 %. Omura et al [11] reported cases with 51 % complete response, 25 % partial response, 76 % total response and median survival of 20 months with CAP regimen. Neijt et al [12] his study of 99 patients observed, partial response in 40 % & a complete response in 40% patients.

Among 12 patients put on CP regimen, complete response was noted in 7 (58.33 %) patients, partial response in 4 (33.3 %) and progressive disease in 1 (8.33 %) patient. From the present study, it can be observed that there is no much difference in response between the two regimen (CAP & CP). The same has reported in various series in literature [13-16].

Paclitaxel + carboplatin regimen was used as second line chemotherapy in 5 patients who had complete response to 1st line therapy and had recurrence beyond 6 months of completing the course. At the end of 24 months, 12 (31.57 %) were dead, 22 (57.89 %) were alive and 4 lost to follow up.

5. Conclusions

The present hospital based study analyzed 40 malignant ovarian tumors with respect to their clinical profile, management and its outcome. The following conclusions were drawn from the study: Percentage of malignant ovarian tumors among all gynaec admission was 1.6 %. Abdominal distention / mass per abdomen / fullness was the most common presentation. The incidence of ovarian malignancies increases with age and peaks at 51-60 yrs. The incidence decreases as parity increases. Papillary serous cyst adenocarcinoma was the commonest of all ovarian malignancy followed by mucinous cystadenocarcinoma. Majority of the patients (55 %) presented with stage III disease of which 40 % were in stage IIIc. Complete response was observed in 52.94% of patients with CAP regimen while partial response in 11.76% patients. Among those put on CP regimen complete response was noted in 58.33%, while partial response was noted in 33.33% patients.

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