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3 year retrospective study of carcinoma ovary in a tertiary care centre

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Abstract

Introduction: Carcinoma ovary is one of the gynaecological malignancy affecting women of all age groups, having significant morbidity and mortality. One of the main disadvantages in carcinoma ovary is the absence of a well-defined screening test and inaccessibility of the ovary to clinical examination. Most of the cases of carcinoma ovary are reported in advanced stages with abdominal distension, and rarely pain abdomen. CA ovary is treated primarily by surgery and chemotherapy.

Objective: A retrospective study is performed on patients diagnosed with carcinoma ovary who underwent surgery and chemotherapy in AJIMS&RC, which is a tertiary care centre in coastal Karnataka. The clinical symptoms and signs, radiological evaluation and primary mode of treatment was evaluated.

Methods: A total of 56 patients of carcinoma ovary who have undergone primary treatment in AJIMS were included in the study. The complete details of the patient including clinical symptoms and signs, radiological imaging and primary mode of treatment were noted, the results tabulated, and a complete analysis done.

Results: Our study shows that 50 to 60 years was the most common age group in which carcinoma ovary was detected with pain abdomen as the common symptom of presentation. Most of the cases were reported in advanced stages and received surgery and neoadjuvant chemotherapy. Most common histopathological diagnosis was epithelial serous cell carcinoma.

Conclusion: The ovarian cancer is a type of genital cancer where surgical debulking has a significant role in the prognosis and survival of the patient, but is detected late in view of nonspecific symptoms and not having specific screening protocols.

Keywords: Carcinoma ovary, chemotherapy, surgical staging, tumour marker

Introduction

Need of the study

Ovarian cancer is one of the leading cancers in Indian women. It is the 6th most common cancer and the 7th leading cause of cancer death worldwide. In India it is the 3rd leading site of cancer trailing behind cervical and breast cancer.

Ovarian cancer is often called the silent killer because early symptoms of ovarian cancer are often mild, making this disease difficult to detect. Ovarian cancer is most common in women who have been through menopause, although it can affect women of any age. For all types of ovarian cancer, the five-year relative survival rate is 45%. Women diagnosed when they are younger than 65 do better than older women.

This retrospective study is done in a tertiary care hospital, where, all modalities of treatment were available for the patient care. The evaluation was done mainly in terms of clinical characteristics of patients of carcinoma ovary and the primary treatment the patients have received after complete evaluation in terms of surgery or chemotherapy.

Material and methods

This retrospective study was conducted in a tertiary care hospital in Mangalore, Karnataka, consisting of cases which have been treated in 2015-17, after obtaining approval from the ethical committee and concerned authorities. The study comprised 56 cases of carcinoma ovary who have visited the hospital for primary treatment after diagnosis. The patients who have received primary treatment in other centres or coming with recurrences have been excluded. The details of diagnosed cases, including, symptoms, signs, imaging reports, tumour markers, have been recorded as per the requirement in the study. Hospital is equipped with all 3 modalities of cancer treatment, surgery, chemotherapy, and radiotherapy. The patients who were enrolled into the study were divided into groups according to the mode of treatment received, like surgery or chemotherapy.

In all the operated cases, specimens were sent for histopathology reporting. The collected reports are tabulated as per histopathological type and its related characteristics like tumour markers, etc.

Results

Data from all the cases with diagnosis of carcinoma ovary which were admitted to AJ institute of medical sciences between the years of 2015 to 2017 were collected. A total number of 56 patients were included in the study. The details of the cases including symptoms, signs, imaging studies, treatment received and final histopathological diagnosis were collected and tabulated.

In this retrospective study, majority of patients (35%) were belonging to 50 to 60 years. The second commonest age group was in 40 to 50 age group with 17 cases(30%) followed by 9 cases in 60 to 70 age group (16%). The least number of patients were noted to be under the age of 30. (1%) One patient Two cases were reported in the elderly age group of 60 to 70(3%). None of the cases in this retrospective study was in the pre menarcheal age group.

Table 1: Age-wise distribution of cases

Age	Number of patients
<20	1(1.7%)
20-30	1(1.7%)
30-40	6(10%)
40-50	17 (30%)
50-60	20(35%)
60-70	9 (16%)
70-80	2(3.5%)
Total	56

Ovarian cancer usually presents with nonspecific symptoms resulting in patients seeking medical help in advances stages. It has been very difficult to define the symptoms attributable to ovarian cancer. Clinical suspicion is the most important marker in the diagnosis of ovarian cancer. Majority of patients who were asymptomatic in the beginning of the disease, became symptomatic later on, with symptoms like pain abdomen, distension or abnormal uterine bleeding.

In our study majority of patients presented with lower abdominal pain. 30 patients out of a total number of 56 patients presented with pain abdomen (53%) followed by abdominal distension – reported by 19 (33%) patients. Around 16 patients (28%) reported with nonspecific symptoms. In the study group 8 patients (14%) reported with mass per abdomen preceded by 9 (16%) patients with postmenopausal bleeding.

Table 2: Symptom-wise distribution of cases

Symptom-wise distribution of cases	
Non specific	16(28%)
Distension	19(33%)
Mass per abdomen	8 (4%)
Pain abdomen	30 (53%)
Post-menopausal bleeding	9(16%)

The main disadvantage in carcinoma ovary is not having a well defined screening protocol for diagnosis which often results in diagnosis of the ovarian carcinoma in advanced stages. In our study majority of patients were diagnosed with stage III disease at first visit, accounting for 50% of the total number of patients. The second commonest group was in stage II at 26%. Of the 56 cases, 14% were reported to be in the stage IV of the disease

forming a percentage 14%, which is better in comparison to other studies. Least number of cases diagnosed were in stage I as expected due to uncertainty in screening protocol and nonspecific symptoms, resulting in poor outcome of the patients treated.

Table 3: Staging of the disease at time of presentation

Staging of the disease at time of presentation	Number of cases
I	5 (1.7%)
II	15(26%)
III	28 (50%)
IV	8(14%)
Total	56

The ovarian cancer is a type of genital cancer where surgical debulking has a significant role in the prognosis and survival of the patient. Wide spread metastasis with significant ascites makes the patient inoperable. Usually such patients are subjected to neoadjuvant chemotherapy followed by surgery. In our study out of 56 patients, 22 (40%) underwent cytoreductive surgery followed by chemotherapy, whereas 34 patients (60%) received neoadjuvant chemotherapy in view of inoperable status. According to Danijela Jellovac [1]. Although ovarian cancer can spread hematogenously or via the lymphatic system, the bulk of the tumor will be found on peritoneal surfaces. This peritoneal disease results from shedding of ovarian tumor cells into the peritoneal cavity, circulation of these cells throughout the abdomen and pelvis, and eventual implantation onto peritoneal surfaces. The viability of these cells and successful tumor growth is further dependent upon the development of sufficient neovasculature to support cell survival and tumor growth.

Table 4: Distribution of cases as per primary treatment

Distribution of cases as per treatment given	
Surgical treatment	22 (40%)
Neo-adjuvant chemotherapy	34(60%)
Total	56

In our study, as expected major number of cases belonged to the serous epithelial cell tumor category (66%) followed by germ cell tumors (14%) and sex cord stromal tumors (8%).

Table 5: Distribution of cases as per histopathological diagnosis

Distribution of cases as per histopathological diagnosis	
Epithelial cell tumours	37(66%)
Germ cell tumours	8 (14%)
Sex cord stromal tumours	5(8%)
Undifferentiated tumours	6(12%)

In the epithelial cell group around 21 cases (56%) were serous cystadenocarcinoma followed by 13 cases of mucinous cystadenocarcinoma (35%) followed by 3 cases of endometrioid carcinoma. (8%)

Table 6: Patient distribution as per types of epithelial cell tumours

Patient distribution as per types of epithelial cell tumours	
Serous cystadenocarcinoma	21(56%)
Mucinous cystadenocarcinoma	13(35%)
Endometrioid carcinoma	3(8%)
	37

Discussion

In our study majority of carcinoma ovary patients (35%) were

reported in the age group of 50 to 60 years. Similar incidence was reported by Yorito Yamamoto⁶ *et al.* in 2015 where 58.9% cases were reported in the same age group. Another study by Hanifi Sahin^[11] *et al.* in 2018 where mean age group was 54 years which is comparable to our study. Also as per the study conducted in 2018 by Robert L Hollis^[12] *et al.* stated that highest number of cases were reported between the ages of 41 to 82 which is comparable to our study.

In our study, the most common presenting symptom was pain abdomen, reported by 53% of patients. But in a study conducted by Kate E Brain^[3] *et al.* in 2014, the most common presenting complaints were post menopausal bleeding, pelvic and abdominal pain which was around 87%. A study conducted by Ketan Gajjar^[2] in 2012 reported abdominal distension to be the most common complaint with which patients have reported.

In our study, 50% of cases were diagnosed at stage III of the disease. Similar incidence has been reported in studies conducted by Karina^[4] *et al.* in 2014 where the percentage of patients diagnosed at stage III exceeded 50%. Study conducted by MR Mirza *et al.*^[8] in 2016 reported that maximum number of cases were admitted wherein the stage III which is around 70%, is significantly more than what was reported in our study. A study conducted by Robert Hollis *et al.*^[12] in 2018 also reported similar findings where maximum cases diagnosed were in stage III of the disease. Another study conducted by Stephen C. Rubin^[5] *et al.* reported maximum number of cases diagnosed in Stage III of ovarian cancer which is similar to our study.

The ovary gives rise to a diverse types of carcinomas which includes epithelial, germ cell, sex cord stromal and undifferentiated tumors. In our study highest number of patients belonged to the serous epithelial cell tumor contributing to 66% of the total number of patients. Similar incidence was reported by Alicia Beeghly^[10] *et al.* 2018 as well as Leona A. Holmberg⁷ *et al.* in 2015 which showed 69% and 63% respectively. Also a study published by Robert Hollis^[12] *et al.* in 2018 reported similar findings where maximum number of cases belonged to epithelial serous cell carcinoma (16). Another study by Stephen C Rubin^[5] *et al.* reported similar incidence where maximum number of cases diagnosed belonged to the serous epithelial cell tumor type. Another study conducted by Patrick Kafui Akakpo^[9] in 2017, stated that epithelial serous cell carcinoma was the most common histological variant for a mean age of 50 years.

Conclusion

The result of our study indicates the ovarian cancer is the disease most likely to present at the age of 50 to 60 years. In general, majority of ovarian carcinoma patients have non-specific symptoms, in our study lower abdominal pain was the most common presenting complaint. As expected, most of the cases were reported in the advanced stage III of the disease, one of the reason being not having well defined screening protocol. The ovarian cancer is a type of genital cancer where surgical debulking has a significant role in the prognosis and survival of the patient. Most common histopathological diagnosis was serous epithelial carcinoma followed by germ cell tumors.

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