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An observational study of clinico-pathological characteristics of gynecological tumors and mode of treatment

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ABSTRACT

Background: Gynecological malignancies are a group of various malignancies of the female reproductive system which included cancers of the ovary, cervix, uterus, vulva, vagina, and also gestational trophoblastic neoplasia. **Aims and Objectives:** The aim of this study was to study the clinical profile, different histopathological types of gynecological tumors, and mode of treatment. **Materials and Methods:** Study was conducted on 94 patients from June 2022 to December 2022. **Results:** Mean age of study population was 49.54 ± 14.54 years. On radiological examination, out of total 52 ovarian cancers, cysts were present in 14 (14.89%) women, solid cysts in 16 (17.02%), papillary projections in 9 (9.57%), vascularity in 11 (11.70%), and lymphadenopathy in 2 (2.12%) women. The Pipelle biopsy results showed complex hyperplasia with atypia in 6 women (6.38%), endometrial carcinoma in 2 women (2.12%), focal atypia in 3 women (3.19%), and simple hyperplasia with atypia in 7 women (7.44%). On Pap smear/liquid based cytology, 1 (1.06%) woman each had atypical squamous cells, HSIL cannot be excluded, atypical squamous cells of undetermined significance, high-grade squamous intraepithelial lesion, and low-grade squamous intraepithelial lesion. No intraepithelial lesion or malignancy was found in 82 (87.23%) women. Present study showed that cervix cases was 10 (10.63%), endometrium 30 (31.91%), and vaginal 1 (1.06%). Majority of women in the present study, that is, 53 (56.38%) had ovarian tumors. In endometrial cancer, endometrioid adenocarcinoma, that is, 15 (50%) followed by simple endometrial hyperplasia without atypia and complex endometrial hyperplasia with atypia, that is, 4 (13.33%) each. **Conclusion:** Maximum number of patients having various gynecological tumors presented with stage II disease and above but maximum women with ovarian cancer reported with stage III and stage IV. These results clearly explained that ovarian cancer usually had non-specific or misleading symptoms as compared to cervical cancer which reported few specific symptoms.

Key words: Clinico-pathological; Gynecological; Tumors; Mode of treatment

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INTRODUCTION

Gynecological tumors are an important cause of morbidity and mortality in women. The obstetrics and gynecology department sees different types of benign and malignant tumors in different age groups. The common type of benign and malignant tumors changed over decades based on the change in the lifestyle and profile of patients. Cervical cancer, ovarian cancer, and the endometrial cancers (ECs) are the most common type of cancer. Although the prognosis is better with early diagnosis, many a times, gynecological cancers are detected in a later stage. Cervical cancer is one of the most common gynecological cancers among women worldwide.[1]

Ovarian cancer is found in approximately 30% of all categories of cancers related to female genital tract and reported seventh most common cancer among women worldwide.[2] Maximum female having stage I ovarian cancer had an excellent prognosis but most ovarian cancer patients,

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that is, approximately 60% are diagnosed with distant-stage disease with a survival rate of just 29%. An accurate histopathological diagnosis of ovarian tumors is vital for their management and to predict the outcome of the therapy. Information from developing countries regarding clinicopathological features for ovarian tumors is lacking.[3]

According to a epidemiological study, ovarian tumors represent about 27% of all female genital cancers and account for 52% of deaths.[4] The increased risk of ovarian cancer particularly of surface epithelial tumors is associated with use of hormone replacement therapy,[5] tobacco consumption,[6] family history of ovarian cancer and breast cancer, and mutation of BRCA1 and/or BRCA2.[7,8]

The incidence and mortality of EC are also increasing worldwide.[9] Patient prognosis is relatively optimistic in the early stages, especially for endometrioid carcinoma.[9]

EC is a common gynecologic malignancy in developed countries and 4th most common cancer after breast, lung, and colorectal cancers.[10] The death rates from EC have increased by more than 100% over the past two decades, with type II EC accounting for up to 40% of the death cases.[11]

Keeping in view the above-mentioned facts, the present study was conducted to study the clinical profile, different histopathological types of gynecological tumors, and mode of treatment provided. In this study, we studied the profile of benign and malignant tumors as well as their common mode of treatment which helped us to better understand the situation that enabled us to improve our practice.

Aims and objectives

1. To study the clinical and histopathological profile of gynecological tumors
2. To study the various modalities of treatment of gynecological tumors.

MATERIALS AND METHODS

The present observational study was conducted in the Department of Obstetrics and Gynecology of the Bangalore Baptist Hospital, Bellary Road, Hebbal, Bangalore, from June 2022 to December 2022 on 94 patients. It is a 340 bedded, NABH accredited, and multispecialty tertiary health care center with DNB training program. The department has 47 beds with an average of 200 out patients, 20 admissions per day.

Inclusion criteria

Patients diagnosed with endometrial, cervical, and ovarian tumors who received inpatient and/or outpatient care were included in the study.

Exclusion criteria

Patients having any other type of tumor irrespective of endometrial, cervical, and ovarian tumors and taking treatment from outside were excluded from the study.

Methodology

Clinical and demographic data were collected from all the patients. Data were collected after obtaining patient's written and informed consent. Focus on oncologic treatment was given. Data collected included demographic profile as well as clinical presentation concerning age, presenting complaints, duration of symptoms, findings of gynecological examination, tumor markers, histological types, surgical procedures, systemic chemotherapy, radiotherapy and other modalities of treatment received. To evaluate the gynecological tumor, an ultrasound examination which consisted of either transvaginal or transabdominal sonography with or without color Doppler was done. Sonographic findings regarding size of adnexal mass, laterality, locularity, solid elements, hemorrhage, presence of ascites, evidence of metastasis, and Doppler studies with pulsatility index and resistance index were assessed. Sophisticated imaging modalities such as computed tomography or magnetic resonance imaging when used in selected patients were taken into account to arrive at a sonological diagnosis. Standard laboratory tests consisted of complete hemogram, tumor markers, and other required tests were done before surgery. Following laparoscopy/laparotomy, specimens were sent for histopathological examination and the reports were collected. Patients were staged as per the International Federation of Gynecology and Obstetrics after reviewing surgical details, post-operative pathological reports, and radiological reports.

Statistical analysis

At the end of the study, the data were collected and analyzed statistically using Microsoft Excel and SPSS version 22.0. Descriptive analysis was done, namely, mean, standard deviation, number, percentages, and proportion.

RESULTS

Majority of women reported in the age group of 41–50 years, that is, 25 (26.59%) followed by 16 (17.02%) each of 31–40 years and 61–70 years, respectively. Only 8 (8.51%) women were in elderly age group, that is, 70 years. Mean age of study population was 49.54±14.54 years. A total of 20 (21.27%) women had parity P1, 38 (40.42%) had P2, 6 (6.38%) had P3, and 9 (9.57%) had P4. Nulligravida was found in 14 (14.89%) women. Maximum numbered of women delivered through normal vaginal delivery, that is, 57 (60.63%) followed by 16 (17.02%) who underwent cesarean section. Only 1 (1.06%) woman had

normal vaginal delivery with cesarean section. A total of 17 women were using various types of contraceptive methods. Maximum number of women, that is, 10 (10.63%) were using oral contraceptives followed by 5 (5.31%) women, who were using barrier methods. Only 2 (2.12%) women used intrauterine devices.

Various clinical findings were observed at the time of presentation of women in the present study. Abdominal pain was observed in 45 (47.86%) women, mass per abdomen in 14 (14.89%), abnormal bleeding per vaginum in 11 (11.70%), postmenopausal bleeding in 32 (34.04%), amenorrhea in 3 (3.19%), and abdominal distension in 11 (11.70%).

As shown in Table 1, abdominal pain was the most common in women having ovarian tumors, that is, 36 (38.29%) followed by 8 (8.51%) women who had endometrium tumors. Similarly, mass per abdomen was in 14 (14.89%) women having ovarian tumors, abnormal bleeding per vaginum was present in 6 (6.38%) and 5 (5.31%) women of endometrium and ovarian tumors, respectively.

Diabetes mellitus, hypertension, and obesity were the most common disease in the present study, that is, 29 (30.85%) each, respectively. Only 5 (5.31%) women had heart related problems. On general physical examination, the present study found that pallor was present in 26 (27.65%) women. On abdominal examination, mass per abdomen was detected in 11 women (11.70%), and ascites was found in 8 women (8.51%).

On radiological examination, out of total 52 ovarian cancers, cysts were present in 14 (14.89%) women, solid cysts in 16 (17.02%), papillary projections in 9 (9.57%), vascularity in 11 (11.70%), and lymphadenopathy in 2 (2.12%) women. CA-125 <35 was found in 8 (8.51%) women, >35–<200 was in 12 (12.76%), >200–1000 in 6 (6.38%), and >1000 in 3 (3.19%) women. Risk of malignancy index (RMI) <200 was found in 39 (41.48%) and RMI >200 in 17 (18.08%) women were noted.

On Pipelle biopsy, the present study shows that it was complex in 6 (6.38%) women, endometrial carcinoma in 2 (2.12%), and focal atypia in 3 (3.19%) women and found to be simple in 7 (7.44%). Pipelle biopsy is valuable in diagnosing endometrial pathology. On Pap smear/liquid based cytology, 1 (1.06%) woman each had atypical squamous cells, HSIL cannot be excluded (ASC-H), atypical squamous cells of undetermined significance (ASCUS), high-grade squamous intraepithelial lesion (HSIL), and low-grade squamous intraepithelial lesion (LSIL). No intraepithelial lesion or malignancy (NILM) was found in 82 (87.23%) women. Cervical cytology is the most commonly used screening test for detecting cervical pre invasive and invasive lesions of the cervix. Finally using new treatment modalities, the present study showed that cervix cases was 10 (10.63%), endometrium 30 (31.91%), and vaginal 1 (1.06%). Majority of women in the present study, that is, 53 (56.38%) had ovarian tumors.

The present study showed that majority of women had endometrioid adenocarcinoma, that is, 15 (50%) followed by simple endometrial hyperplasia without atypia and complex endometrial hyperplasia with atypia, that is, 4 (13.33%) each. Fifteen (78.9%) women had stage 1, 2 (10.5%) women had stage 2, 1 (5.2%) women had stage 3, and 1 (5.2%) women had stage 4 cancer.

Table 2 shows stage and mode of treatment of endometrium and ovarian cancers.

A total of 6 (60%) women had squamous cell carcinoma (SCC), 1 (10%) woman each had cervical adenocarcinoma, cervical carcinoma *in situ*, CIN-1, and CIN-2 each. Among cervical cancers, 2 (28.5%) women had stage 1, 2 (28.5%) women had stage 2, and 3 (42.8%) women had stage 3 cancer.

Table 3 shows stage and mode of treatment of cervical cancers.

Table 1: Various clinical manifestations according to different tumors

Parameters	Cervix n (%)	Endometrium n (%)	Ovarian n (%)	Vagina n (%)
Abdominal pain	1 (1.06)	8 (8.51)	36 (38.29)	0
Mass per abdomen	0	0	14 (14.89)	0
Abnormal bleeding per vagina	0	6 (6.38)	5 (5.31)	0
Postmenopausal bleed	4 (4.25)	23 (24.46)	5 (5.31)	0
Amenorrhea	0	3 (3.19)	0	0
Abdominal distension	0	0	11 (11.70)	0
Gastrointestinal symptoms	0	1 (1.06)	2 (2.12)	0
Fever	0	0	1 (1.06)	0
Genitourinary symptoms	0	0	2 (2.12)	0
Infertility	0	4 (4.25)	10 (10.63)	0
Asymptomatic	1 (1.06)	0	1 (1.06)	0
Other symptoms	0	0	0	1 (1.06)
Any other (Foul, WDVP, and postcoital)	5 (5.31)	0	0	0

Table 2: Stage and mode of treatment of endometrium and ovarian cancers

Stage and mode of treatment	Number of patients	Percentage
Endometrial cancer-malignant	19	17.86
Stage 1	15	14.1
Only surgery	9	8.46
Surgery+radiotherapy	4	4.25
Surgery+chemotherapy	1	1.06
Surgery+chemotherapy+radiotherapy	1	1.06
Stage 2	2	2.12
Only surgery	2	2.12
Stage 3	2	2.12
Surgery+chemotherapy	1	1.06
Surgery+chemotherapy+radiotherapy	1	1.06
All benign-surgical management	11	11.70
Ovarian cancer-Malignant	13	13.82
Stage 1	5	5.31
Medical management	1	1.06
Surgery+chemotherapy	4	4.25
Stage 3	5	5.31
Only chemotherapy	1	1.06
Surgery+chemotherapy	3	3.19
Neoadjuvant chemotherapy+surgery+chemotherapy	1	1.06
Stage 4	3	3.19
Only chemotherapy	2	2.12
Neoadjuvant chemotherapy+surgery+chemotherapy	1	1.06
All benign-surgical management	40	42.55

Table 3: Stage and mode of treatment of cervical cancers

Stage and mode of treatment	No. of patients	Percentage
Cervical cancer-pre malignant cancer		
CIN-1 CIN-2	1	1.06
Carcinoma *in situ*	1	1.06
	1	1.06
Invasive cancer		
Squamous cell carcinoma cervical	6	6.38
adenocarcinoma	1	1.06
Stages and treatment		
Stage 1	2	2.12
Surgery+radiotherapy only surgery	1	1.06
Stage 2	1	1.06
Radiotherapy+concurrent	2	2.12
chemotherapy+Brachytherapy	2	2.12
Stage 3		
Chemoradiation	3	3.19
CIN-1-surgery CIN-2-surgery	1	1.06
Carcinoma in situ-surgery	1	1.06
	1	1.06

DISCUSSION

Gynecological malignancies are a group of different malignancies of the female reproductive system which included cancers of the ovary, cervix, uterus, vulva, vagina, and also gestational trophoblastic neoplasia.[12]

EC is the most common gynecological malignancy worldwide. The death rates for EC raised approx. 100% over the last 20 years. Endometrial adenocarcinoma is the most common type and accounts for more than 70% of the cases while papillary serous and clear cell carcinomas are less common and account for only 10% of EC.[13,14]

In the present study, maximum number of women were in the age group of 41–50 years, that is, 25(26.59%), followed by 16 (17.02%) each of 31–40 years and 61–70 years, respectively. Only 8 (8.51%) women were in elderly age group, that is, 70 years. Mean age of study population was 49.54±14.54 years with a range of 21–84 years. Choudhary and Metgud[15] reported 119 women with age group 41–50 years (25.21%) and 24.36% women in 21–30 years. Mean age was 40.60 years. These results were found to be comparable in literature which states that ovarian tumors may be occurred irrespective of age but found to be most common in reproductive age group.[16,17]

In the present study, a total of 20 (21.27%) women had parity P1, 38 (40.42%) had P2, 6 (6.38%) had P3, and 9 (9.57%) had P4. Nulligravida was found in 14 (14.89%) women. Choudhary and Metgud,[15] reported in their study 83.19% multiparous women while primiparous were 10.08% while 6.72% were multigravida. In their study, 82.35% of women were premenopausal while only 17.64% women postmenopausal. Manal and Siddique[18] reported in their study that majority of women were multiparous (165 cases 94.19%) in their 3rd and 4th decade of life and 1.19% were nulliparous women. On the basis of parity, there were 162 (94.19%) multipara, 08 (4.65%) primipara, and 02 (1.16%) were nulliparous.

The present study illustrates that maximum numbered of women delivered through normal vaginal delivery, that is, 57 (60.63%) followed by 16 (17.02%) who underwent cesarean section. Maximum number of women, that is, 10 (10.63%) were using oral contraceptives followed by 5 (5.31%) women, who were using barrier methods. Nawaz et al., reported that a total of 370 (98.4%) were using no contraceptive methods and only 1 (0.3%) woman used oral contraceptive method.[19]

Various clinical findings were observed at the time of presentation of women in the present study. Abdominal pain was observed in 45 (47.86%) women, mass per abdomen in 14 (14.89%), abnormal bleeding per vaginum in 11 (11.70%), postmenopausal bleeding in 32 (34.04%), amenorrhea in 3 (3.19%), and abdominal distension in 11 (11.70%). Singh et al.,[20] reported that most common presenting feature was abdominal pain (45.9%) and abdominal pain with a lump (45.9%). About 5.4% presented with shortness of breath, and 2.7% of patients presented with bleeding per vagina.

In the present study, various comorbid illnesses were observed at the time of enrollment in the study. Diabetes mellitus, hypertension, and obesity were the most common disease in the present study, that is, 29 (30.85%) each, respectively. Nawaz et al., study reported hypertension in 188 (54.8%) patients with type I EC, while 20 (62.5%) patients from type II subgroup also had hypertension. One hundred and thirty-six (39.7%) patients from type I group had diabetes and 10 (31.2%) from type II group.[19]

In the present study, on radiological examination, we observed that out of total 52 ovarian cancers, cysts were present in 14 (14.89%) women, solid cysts in 16 (17.02%), papillary projections in 9 (9.57%), vascularity in 11 (11.70%), and lymphadenopathy in 2 (2.12%) women. Chandekar et al., reported benign tumors having cystic spaces in 80 cases, borderline as partly solid/cystic in 2 whereas malignant were as solid masses in 21 cases.[21]

In our study, CA-125 <35 was found in 8 (8.51%) women, >35–<200 was in 12 (12.76%), >200–1000 in 6 (6.38%), and >1000 in 3 (3.19%) women. The present study shows that RMI <200 was found in 39 (41.48%) and RMI >200 in 17 (18.08%) women was noted. Choudhary and Metgud[15] reported in their study that a total 70 women who had CA 125 value, 77.14% (54) of women had serum CA 125 levels of <35 IU/mL while 22.85% (16) of women had serum CA 125 levels >35 IU/mL. Some studies reported that CA 125 cannot be characterized adequately as a screening method due to its presence of overall low incidence in general population and risk of false positive results.[22,23] Choudhary and Metgud[15] reported in their study reported RMI Score in 68 women among which RMI score was found to be <200 in 83.82% (57) of women and in 16.17% (11) of women that it was >200. A total of 84 (89.36%%) cases were found to be clinically suspected in the present study.

Pipelle biopsy is valuable in diagnosing endometrial pathology. On Pipelle biopsy, the present study shows that it was complex hyperplasia with atypia in 6 (6.38%) women, endometrial carcinoma in 2 (2.12%), focal atypia in 3 (3.19%) women, and found to be simple hyperplasia with atypia in 7 (7.44%). On Pap smear/liquid-based cytology, 1 (1.06%) woman each had ASC-H, ASCUS, HSIL, and LSIL. NILM was found in 82 (87.23%) women.

In the present study, various types of treatment were given to all the study population, that is, chemotherapy, chemotherapy with radiotherapy, medical management, NACT with surgery, and chemotherapy and/or in combination of these. New treatment modalities were used, that is, surgery+radiotherapy in 6 (6.38%) women, surgery+chemotherapy in 10 (10.63%), and chemotherapy+radiotherapy in 4 (4.25%). Maximum number of women received surgery treatment, that is, 69 (73.40%). Sultana et al.,[24] reported that 45.8% were treated by surgery with or without adjuvant radiotherapy while 24.0% were treated by primary radiotherapy with or without chemotherapy. About 10.4% patients received incomplete treatment and surprisingly 9.4% of vulvar cancer patients received no treatment at all. Sharma et al., where most of the patients were treated by primary surgery±adjuvant radiotherapy (51.7%), primary radiotherapy (45.0%), and pre-operative radiotherapy+surgery (3.3%).[25]

Finally using new treatment modalities, the present study showed that cervix cases was 10 (10.63%), endometrium 30 (31.91%), and vaginal 1 (1.06%). Majority of women in the present study, that is, 53 (56.38%) had ovarian tumors. In EC, the present study showed that majority of women had endometrioid adenocarcinoma, that is, 15 (50%), followed by simple endometrial hyperplasia without atypia and complex endometrial hyperplasia with atypia, that is, 4 (13.33%) each. Among EC, 15 (78.9%) women had stage 1, 2 (10.5%) women had stage 2, 1 (5.2%) women had stage 3, and 1 (5.2%) women had stage 4 cancer. Out of total EC which were malignant, 15 (14.1%) had stage 1 out of which 4 (4.25%) received surgery+radiotherapy, 1 (1.06%) received surgery+chemotherapy, and 1 (1.06%) received surgery+chemotherapy+radiotherapy, 2 (2.12%) had stage 2 who received only surgery and 2 (2.12%) had stage 3 out of which 1 (1.06%) each received surgery+chemotherapy and surgery+chemotherapy+radiotherapy). Rest 11 (11.70%) were benign. In benign category, 5 (12.5%) patients had serous cyst adenoma, 10 (25%) had dermoid cyst, 3 (7.5%) had benign serous cystadenoma, 15 (37.5%) had endometrioma, 5 (12.5%) had mucinous cystadenoma, and 2 (5%) had benign serous cystadenomafibroma.

Recommendations

Health care providers and primary healthcare physicians' role plays a significant role initially. It is also observed that histopathological diagnoses in majority of women cervical and ovarian malignancy were SCC and adenocarcinoma, respectively. It is mandatory for the concerned doctor to have knowledge regarding histological type and disease stage to decide the right treatment modalities to determine a prognosis. At present, our priority should be to educate women and primary health care physicians/workers/nurses and the community. The present study also recommends further studies with large sample size to know various etiological factors and changing age patterns in women having these type of gynecological tumors.

CONCLUSION

Majority of women having gynecological tumors in the developing countries presented in advance stage of the disease. Due to this, early detection and diagnosis plays important role to reduce morbidity and mortality. In the present study, maximum number of women presented in stage II of the disease and above whereas maximum women having ovarian cancer presented with stage III and IV. Initially, identification of various symptoms related to gynecological malignancies and patient's referral program to nearby healthcare institutions play a major role in the early detection and treatment.

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