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Clinical Audit of Gynecological Cancers at National Institute of Cancer Research and Hospital, Dhaka, Bangladesh

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Abstract

Introduction: Because of poor knowledge and awareness, gynecological cancers are late in diagnosis and outcome is worse.

Objective: The aim of this audit was to assess the trend of the gynecological cancers for the year of 2022.

Methods: This is an observational study on retrospectively collected data of gynecological cancer patients at National Institute of Cancer Research and Hospital (NICRH), Dhaka. All cases of cancer seen at the gynecology outpatient department and cases admitted in the gynecological oncology ward at NICRH, between the months of January to December 2022 were audited.

Results: The results shown that about 5.8% of all the new cases were young women aged below 25 years. The majority of gynecological cancers were among women aged between 35 and 64 years (73.17%) and only 2.6% patients were aged above 75 years. Cervical cancer (59%) was the leading gynecological cancer among all female cancers attended at NICRH. In ovarian malignancy, most of the patients(61%) had stage lll disease and no patient in stage IV diseases. Due to improper evaluation of abnormal uterine bleeding, majority of the endometrial carcinoma patients (64%) presented with histopathology reports after hysterectomy.

Conclusion: Cervical cancer in the commonest gynecological malignancy in this series. Most of the ovarian malignancies were in stage III. This study might help to get a in depth understanding of the trend of major gynecological cancers.

Key words: Gynecological cancers, clinical audit, Bangladesh

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Introduction

Gynecological cancers have become an important public health issue as these are common among other female cancers. Due to lack of awareness and proper screening facilities in developing countries, most cancers diagnosed at their advanced stages[1,2] . Ovarian and cervical cancers are the most common gynecological cancers affecting women in India as well as Bangladesh[1,3]. Cervical cancer remains the second most cancer in women after breast cancer influencing both incidence and mortality[4].In Bangladesh, approximately 8068 women are diagnosed with cervical cancer and 5214 die from this disease in 2020.[3] Worldwide, ovarian cancer is the eighth most common female cancer with estimated 313,959 (1.6%) new cases and 207,252 deaths annually.[4] In Bangladesh, more than 3000 new cases of ovarian cancer were diagnosed with incidence of 2% and 2096 deaths in 2020.[3] According to NICRH cancer registry report, 2315 (14.3%) females diagnosed as new cases of cervical cancer annually.[5]

The objective of this audit at NICRH, a government cancer referral center, is to determine the trends of gynecological cancer and to assess the important data covering the preventive cancer, diagnosis and staging, surgical management, complications during surgery and histopathological types in the field of gynecological oncology .

Materials and Methods

This is an observational study on retrospectively collected data of gynecological cancer patients . All cases of cancer seen at the gynecology outpatient department and cases admitted in the gynecological oncology ward at NICRH, between the months of January to December 2022 were audited. Patients who were seen or admitted were either referred from health

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centers. Patient case notes and operation notes were reviewed for diagnosis and/or staging of cancer. Final histopathology reports were evaluated for the surgico-pathological staging.

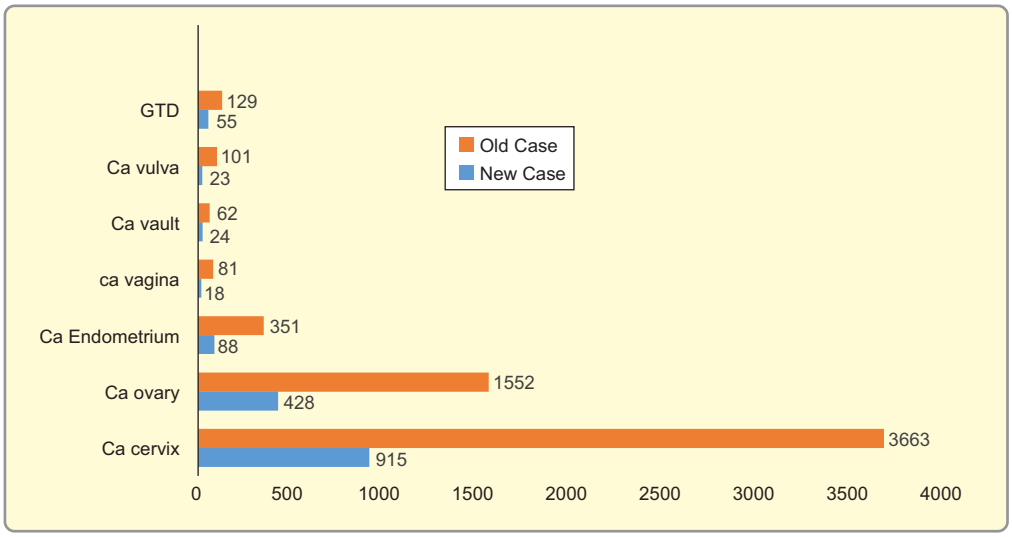
Prior to the commencement of the study, the protocol was approved by the Ethics Committee of NICRH. Data were collected, coded, revised and entered into statistical software. The data set was exported to SPSS for window version 25 for analysis. Descriptive data analysis was performed for frequencies and cross tabulation tables.

Results:

During the twelve months study period, there were 7640 gynecological cancer patients attended at our OPD. Among them, 2393 were new patients and rest were follow-up cases. About 306 (12.79%) patients got admitted for surgeries. Vault cancer means carcinoma of vaginal vault arising 2 years after total hysterectomy. We included all recurrence cancer cases as new and old patient according to their site of malignancy and based on diagnosed at NICRH or not.

Distribution of these gynecological cancers by age shown in Table I.

Total 382 patients underwent surgeries including both major (306) and minor (76) surgeries. Majority of patients (67%) had laparotomy for ovarian tumour. Laparotomy for ovarian tumour done in 205 cases, fifty patients under



Ca cervix= cervical cancer, Ca ovary= ovarian cancer, Ca endometrium= Endometrial cancer, Ca vault= carcinoma of vaginal vault arising 2 years after total hysterectomy.
GTD= gestational trophoblastic diseases

Fig.-1: *Distribution of the OPD gynecological cancer patients (n=7640)*

Table I

Distribution of gynecological cancers by age (n=1551)

Age	<14 Years	15-24 Years	25-34 Years	35-44 Years	45-54 Years	55-64 Years	65-74 Years	>75 Years	Total New Patient (%)
Cervical cancer	0	0	39	247	272	234	97	26	915 (59%)
Ca Ovary	8	59	63	80	102	70	33	13	428(27.6%)
Ca - Endometrium	0	2	7	12	16	39	11	1	88 (5.7%)
Ca - Vagina	1	0	0	2	4	6	5	0	18 (1.2%)
Ca Vulva	0	2	1	2	4	7	7	0	23 (1.5%)
Ca Vault	0	0	0	10	7	6	1	0	24 (1.5%)
GTD	0	19	21	9	5	1	0	0	55 (3.5%)

went radical hysterectomy and bilateral pelvic lymph node dissection (RH and BLPLND) for cervical cancers. Staging laparotomy done in 24 patients for endometrial cancer.

In cancer cervix, only 5% cases presented at their early stages of disease who were successfully treated by RH and BLPLND. About 95% cancer cervix patients attended at OPD with advanced features. Among 50 cervical cancer cases, majority of patients were from stage IB of disease (50%). Regarding histopathology report, 74% were invasive squamous cell carcinoma followed by 18% adenocarcinoma, 4% adeno squamous carcinoma and 2% small cell carcinoma and about 80% shown grade 2 and 12 % revealed grade 3 differentiation.

Regarding ovarian tumours, about 140 patients were treated by staging laparotomy (21%), neoadjuvant chemotherapy followed by interval debulking surgery and primary debulking surgery was performed in 35% and 44% respectively. Frozen section biopsy and imprint cytology done in 48 and 7 cases accordingly. In frozen section biopsy, malignant tumours were seen in 27% cases. About in 8.3 % cases it was equivocal and only in 2% cases borderline malignant tumour was observed.

Most of the patients(61%) were stage lll of disease and no patient in stage IV diseases after sugico-pathological evaluation. Epithelial ovarian cancer (75%) was the most common histological type. Among epithelial ovarian cancers, serous cyst adenocarcinoma was observed in 87.77% cases. Germ cell tumour, metastatic and borderline tumour were seen in 5%, 6% and 0.7% cases each (Table II)

During and following surgery for malignant ovarian cancer, we faced complications in 11 patients (Table III)

Total 24 patients underwent extrafascial hysterectomy and bilateral salpingectomy for endometrial carcinoma. Among 88 patients visited at our OPD, only 36% cases diagnosed at first at this center whereas other 64% patients referred from outside with incomplete staging and histopathology report. Histopathology revealed that adenocarcinoma (80%) was the most common type and LVSI positive in one patient and 14 cases shown myometrial invasion in more than 50%. In case of gestational trophoblastic tumour, fifty five new patients visited at OPD and they treated by S & E and follow up and chemotherapy accordingly.

Wide local excision (WLE) with or without inguinofemoral lymph node dissection (IFLND) (9), skinning vulvectomy (5) , modified radical vulvectomy with IFLND (2) and re-excision for recurrence (2) were the operative procedure done in 18 vulvar carcinoma patients. RH with upper vaginectomy with BLPLND done in 4 vaginal cancer patients and four patients treated by WLE with IFLND for vaginal cancer. Histopathology revealed, malignant melanoma and squamous cell carcinoma were 4 in each case.

Table-II

Final Histopathology of Ovarian Tumour

Histopathology of Ovarian Tumour (n= 140)		No.
Epithelial carcinoma (75%)	Serous cyst adenocarcinoma	93
	Mucinous cyst adenocarcinoma	13
Germ cell tumour (5%)	Immature teratoma	2
	Dysgerminoma	4
	Yolk sac tumour	1
Sex cord stromal tumour (1.4%)		2
Metastatic (6%)		8
Borderline tumour (0.7%)		1
No evidence of malignancy (11.4%) (Complete response after chemotherapy)		16

Table-III

Peri-operative complications of laparotomy (n=11)

Peri- operative complication	No
Great vessel injury	2
Gut injury	4
Re-laparotomy for anastomotic leakage	1
Ureter injury	1
Urinary bladder injury	3

Discussion

We analyzed total 7640 OPD cases and 306 admitted gynecological cancer patients in the year 2022 at NICRH. The data indicated that cervical cancer is still the most common female cancer in this country. Screening can prevent cervical cancers by allowing for the detection and removal of precancerous lesions.

In our observation, about 5.8% of all the new cases were young women aged below 25 years which was comparable with the finding of Queen Elizabeth Central Hospital, Malawi.[6] The majority of gynecological cancers were among women aged between 35 and 64 years (73.17%) and only 2.6% patients were aged above 75 years. Most of the study revealed the different age distribution of gynecological cancers.[1,7,8]

In this study, Majority of cervical cancer patients diagnosed between 35 years and 64 years. At NICRH, cervical cancer peaked at 50 years.[5]

Yang M, et al reported the number of cervical cancer cases peaked at ages 50–54 years. The rates of incidence increased with increasing age group up to the ages of 55–59 years, after which the incidence started to be stable.[8] Regarding ovarian cancer, most of the patients (23.8%) presented between 45 to 54 years in this current study which is comparable with other Indian studies. [1,9]

In cancer cervix, only 5% cases presented at their early stages of disease who were successfully treated by RH and BLPLND. About 95% cancer cervix patients attended at OPD with advanced features. Majority of the women with cervical cancer present with advance stage where surgery may not be suitable [10]. Since most women in India still present to oncology clinics at an advanced stage, concurrent chemoradiation has remained one of the pillars of management of cervical cancers [1].

Among 50 cervical cancer cases, majority of patients were from stage IB of disease (50%). Regarding histopathology report 74% were Invasive squamous cell carcinoma followed by 18% adenocarcinoma. While squamous carcinomas are the most common histology in cervical cancers followed by adenocarcinoma and adenosquamous carcinomas, we may come across rare tumors such as small cell carcinoma (2%) and adenoid cystic carcinoma (2%). Rekhi et al.[11]and Maheshwari et al.[1] reported some rare histological type cervical cancer like neuroendocrine carcinoma.

Staging describes the extent or spread of cancer at the time of diagnosis. Proper staging is essential in determining the choice of therapy and in assessing prognosis. A cancer's stage is based on the size or extent of the primary tumor and whether it has spread to nearby lymph nodes or other areas of the body. A number of different staging systems are used to classify cancer. A system of summary staging is used for descriptive and statistical analysis of tumor registry data and is particularly useful for looking at trends over time.

At diagnosis, about two-third of all epithelial ovarian cancers (EOC) are in stage lll or lV.[12] Approximately 70% of EOC, the most common form of ovarian cancers, are not diagnosed until the disease has involved the upper abdomen or spread beyond the abdominal cavity[13]. Owing to the anatomic location of the ovary that make it inaccessible for screening and the non-specific symptoms of its tumors, the majority of the patients present with advanced disease, making prognosis poor.[14]

In this study, most of the patients(61%) had stage lll disease and no patient in stage IV diseases after sugico-pathological evaluation. Epithelial ovarian cancer (74%) was the most common histological type. Serous cyst adenocarcinoma was observed in 87.34% cases. We also observed some uncommon varities such as teratocarcinoma, squamous cell carcinoma and stromal sarcoma. Germ cell tumour, metastatic and borderline tumour were seen in 5%, 6% and 0.7% cases each. We crossed approximately 10.7% of non-epithelial ovarian cancer at our center. This result is almost consistent with the observation of Berek et al. where they show non-epithelial ovarian malignancy account for about 10% of all ovarian cancers[12].

Intraoperative frozen section has been used in the diagnosis of ovarian neoplasms during exploratory laparotomy specially in suspicious adnexal masses in

an oncology practice. The overall accuracy of frozen section diagnosis was 91.2%. The majority of cases of disagreement were in the mucinous and borderline tumors [15]. We have done Frozen section biopsy and imprint cytology in 48 and 7 cases accordingly. In frozen section biopsy, there were malignant, equivocal and borderline malignant tumour seen in 27%, 8.3% and 2%cases respectively.

Most of the women presented with either postmenopausal or perimenopausal bleeding prior to being diagnosed as endometrial cancer or primary inadequately staged for corpus uterine cancers were referred for further management[2]. Due to improper evaluation of abnormal uterine bleeding, majority of the endometrial carcinoma patients (64%) visited us with histopathology reports after hysterectomy. Only 24 patients underwent extrafascial hysterectomy and bilateral salpingectomy for endometrial carcinoma. Standard treatment of endometrial cancer consists of hysterectomy and bilateral salpingectomy. Lymphadenectomy enables identification of lymph node positive patients who need adjuvant treatment.[16]

Histopathology revealed that endometroid type adenocarcinoma (80%) was the most common type and LVSI positive in one patient and 14 cases shown myometrial invasion in more than 50% in this present study. According to WHO classification of tumour, endometroid cancers are the majority of endometrial cancers and most commonly present as early stage. [17]

Traditionally, vulvar cancer has been regarded as a disease of postmenopausal women, although the mean age of incidence has fallen in recent years owing to the increase in HPV infections worldwide.[18,19] Among the 23 vulvar carcinoma patients, seven were in between the age of 15 and 50 years in this current study. WLE with or without IFLND(in 9 cases), skinning vulvectomy (5 cases) , modified radical vulvectomy with IFLND (2 cases) and re-excision for recurrence (2 cases) were the operative procedure done in 18 vulvar carcinoma patients.

Primary vaginal cancer is rare, accounting only 1% to 2% of all female genital tract malignancies.[20] In one year, out of 18 vaginal cancer cases, only eight patients underwent surgery. RH with upper vaginectomy with BLPLND done in four vaginal cancer patients and four patients treated by WLE with IFLND. Histopathology revealed, malignant melanoma and squamous cell carcinoma were 4 in each case. Squamous cell carcinoma is the most common vaginal cancer and malignant melanoma accounts for about 3% of vaginal malignancies.[12] As NICRH is a tertiary cancer referral hospital, both squamous and malignant melanoma histopathological types may be presented in equal number.

Limitation

The study had some limitations that must be acknowledged. The study was conducted in a single center which may not be representative for the whole population.

Conclusion

Among **1551 new cancer patients,** 12.79% patients got admitted for surgeries as cervical cancer (59%) was the leading cancer at NICRH. In cancer cervix, only 5% cases presented at their early stages of disease who were successfully treated by RH and BLPLND. Regarding ovarian tumours, about 140 (67%) patients were treated by staging laparotomy (21%), neoadjuvant chemotherapy followed by interval debulking surgery (35%) and primary debulking surgery (44%) accordingly. In endometrial cancer patients, most of the patient (75%) diagnosed between 45 and 74 years of ages which is an age range of perimenopausal to menopausal.

Recommendation

Cervical cancer is a preventable disease among the five major gynecological malignancies as there are many screenings procedure. All abnormal uterine bleeding and postmenopausal bleeding should properly be evaluated for endometrial cancer before going to hysterectomy. Patients with suspected adnexal mass at any ages should not be neglected as no age is immune for ovarian malignancy.

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