

Original Article

Histopathological Pattern of Gynecological Malignancies at Tribhuvan University Teaching Hospital, Nepal: A 3 Years Study

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ABSTRACT

Introduction: Gynecological malignancies include malignancies affecting the female reproductive organs ovary, cervix, body of uterus, vulva, vagina, and gestational trophoblastic neoplasia.

Materials and Methods: This is a hospital-based retrospective observational study of histopathological confirmed gynecological malignancies conducted in the department of Obstetrics and Gynecology, Tribhuvan University Teaching Hospital, Maharajgunj, Kathmandu for 3 years from April 2016 to March 2018.

Results: Among 314 cases enrolled in the study, the most common gynecological malignancy was of ovary (50.63%), followed by the cervix (30.25%), endometrium (9.23%), (4.77%) gestational trophoblastic neoplasia (3.82%), and fallopian tube (1.27%). 71% of the gynecological malignancies presented in early-stage and 29% in late-stage. The most common histopathological diagnosis of ovarian cancer was serous cystadenocarcinoma (30.18%), cervical cancer was squamous cell non-keratinizing type (46.3%), endometrial carcinoma was endometrioid adenocarcinoma (55%), vulval carcinoma was squamous cell carcinoma (86%), fallopian tube carcinoma (100%). The mean age of gynecological malignancy was 49.06 ± 10.08 years.

Conclusions: Screening of gynecological malignancy is necessary to identify the disease in early-stage to decrease maternal morbidity and mortality.

Keywords: Endometrioid; Gynecological malignancy; Ovarian cancer; Squamous cell carcinoma

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INTRODUCTION

Malignancies of the female genital tract are a major health issue globally and contribute significantly to cancer-related morbidity and mortality worldwide. Gynecological malignancies include malignancies affecting the female reproductive organs ovary, cervix, body of uterus, vulva, vagina, and gestational trophoblastic neoplasia.^{1,2} The burden of gynecological cancers in developing countries appears huge. In developing countries, gynecological cancers account for 25% of all new cancers diagnosed among

women aged up to 65 years compared to 16 % in the developed world.³ The pattern and prevalence of genital tract malignancies show more geographical variations with several studies reporting varying patterns of prevalence and presentation between developing and developed countries. Within the same country, there are also differences in the prevalence and pattern between urban and rural areas.⁴

Determination of patterns of gynecological malignancies will help in setting priorities for disease prevention and control. Over the years, the number of gynecological malignancies is increasing for which the factors like increased life expectancy and changing dietary practice and environmental risks are thought to be responsible.⁵ Nepal lacks documentation regarding the histopathological diagnosis and stage of presentation thus generation of accurate data on cancer and setting up of preventing programs for early detection of cancer is a necessity. This study will have a major role in providing awareness, promoting early detection, and referral of suspected cases for appropriate management.

MATERIALS AND METHODS

This is a retrospective study of all gynecological malignancies whether diagnosed clinically or surgically but confirmed by histopathology at TUTH done over 3 years, from April 2016 to March 2018 in the department of Obstetrics and Gynecology in Tribhuvan university teaching hospital. The study aims to find out histopathological patterns and stages at a presentation during the diagnosis of female genital tumors. Genital malignancy in this study includes malignancies affecting the female reproductive organs i.e ovary, cervix, endometrium, vulva, vagina, gestational trophoblastic neoplasia, fallopian tube. Data were collected from patient files. Descriptive analysis was conducted using SPSS 24 Software. The final results were presented in tables. The discussion was done concerning the result and a conclusion shall be derived.

RESULTS

There were 314 patients with gynecological malignancies among 224656 women during the study period of 3 years (0.13%). The age range of the patient having gynecological malignancies was between 11-91 years with a mean age of gynecological malignancy of 49.06 ± 10.08 years. The common gynecological cancer was ovarian followed by cervical and endometrial and the common histopathology was serous adenocarcinoma in the ovary, squamous non-keratinizing in the cervix, and endometrioid adenocarcinoma in the endometrium. (Table1-4). 71% of the gynecological malignancies presented in early stages (1,2) and 29% in late stages (Table 5).

Table 1: Histopathological pattern of ovarian malignancies

Pathological Types	HPE Pattern	Frequency(%)
Epithelial	Serous	48(30.18%)
	Mucinous	40(25.2%)
	Endometrial	23(14.5%)
	Clear cell	5(3.2%)
	Brenner	4(2.5%)
Germ cell tumors	Dysgerminoma	12(7.6%)
	Yolk sac tumor	8(5%)
	Immature teratoma	10(6.3%)
	SCC from mature teratoma	4(2.5%)
Sex cord stromal	Adult granulose cell tumors	3(1.72%)
	Stromal tumors	2(1.3%)

Table 2: Histopathological pattern of cervical malignancies

Pathological Types	HPE Pattern	Frequency(%)
Squamous cell ca	Non-keratinizing	44(46.3%)
	Keratinising	26(27.4%)
	Papillary	6(6.4%)
Adenocarcinoma	Mucinous	8(8.4%)
	Villoglandular	4(4.2%)
	Endometrioid	3(3.1%)
Mixed adenocarcinoma		4(4.2%)

Table 3: Histopathological pattern of endometrial malignancies

Pathological Types	HPE Pattern	Frequency(%)
Endometrioid adenocarcinoma	Squamous differentiation	16(55%)
	Villoglandular	5(17.2%)
	Secretory	1(3.5%)
Clear cell carcinoma		4(13.9%)
Undifferentiated ca*		3(10.4%)

*Ca- Carcinoma

Table 4: Histopathological pattern of other malignancies

Pathological Types	HPE Pattern	Frequency(%)
Vulval Ca*	Squamous cell Ca	13(86%)
	Transitional cell Ca	1(7%)
	Basal cell Ca	1(7%)
Fallopian tube Ca*	Adenocarcinoma	4(100%)
Gestational trophoblastic neoplasia	Invasive mole	7(59%)
	Choriocarcinoma	4(34%)
	Placental site trophoblastic tumor	1(7%)

*Ca- Carcinoma

Table 5: Distribution of gynecological cancer according to the stage of diagnosis

Stage	Ovarian Ca* n=159(%)	Cervical Ca* n=95(%)	Endometrial Ca* n=29(%)	Vulval Ca* n=15(%)	Fallopian Ca* n=4(%)	GTN n=12(%)	Total 314
Stage 1	94(59.11%)	24(25.56%)	12(41.37%)	6(40%)	2(50%)	8(66%)	146 (46%)
Stage 2	28(17.61%)	36(37.89%)	8(27.58%)	5(33%)	0	0	77(24.6%)
Stage 3	34(21.38%)	35(36.84%)	8(27.58%)	4(26%)	2(50%)	4(33%)	87(28%)
Stage 4	3(1.88%)	0	1(3.44%)	0	0	0	4(1.4%)

*Ca- Carcinoma

DISCUSSION

The frequency of gynecological malignancies in TUTH was 0.13(%) among all gynecological tumors which are similar to a study carried out by Subedi N et al⁶ (0.66%). This low frequency could be due to a very high sample size where all gynecological cases visiting the hospital in the outpatient, inpatient, and emergency departments were included.

In our study, ovarian cancer was the most common gynecological malignancy (50.63%) which is similar to done in Pakistan and Tehran where it was present among 55.5% of gynecological malignancy.^{7,8} However, It was found lower in different studies carried out in Nepal Jha et al (14%)⁹, Pokhrel et al (17%).¹⁰ Dhakal et al¹¹ reported ovarian cancer to be the second most common gynecological cancer (6.4%).

In developing countries, cervical cancer is known to be the most common cancer accounting for 60% of the gynecological burden.¹² Dhakal et al¹¹ from data collected in B.P Koirala memorial cancer hospital and Jha et al⁹ collected data from Paropakar maternity and women's hospital have also shown cervical cancer as number one cancer among women in Nepal. Thus, the discrepancy seen in the frequency of gynecological malignancy in this study could be because being conducted in the capital of the country, the socioeconomic status of people is comparatively better than the rural area which is one of the known risk factors for cancer cervix.

Endometrial cancer remained the third common gynecological malignancy in our study (9.23%) which is similar to Pokhrel et al¹⁰(10%) but slightly higher than Jha et al⁹ (5.5%), Dhakal et al¹¹ (2.1%) which is in contrast to the findings of western countries where endometrial cancer is 35% of all gynecological malignancies. The low incidence of endometrial cancer may be due to the low incidence of obesity, hypertension, diabetes mellitus, and breast cancer in our country as compared to the west.¹² Vulval cancer was found to be 7% in our study which is similar to the study carried by Joseph et al in Nigeria (7.1%)¹³ which was the fourth most common malignancy. In our study, there were (3.82%) cases of gestational trophoblastic neoplasia which was the fifth most common malignancy which is similar to the study carried by Sarkar et al (5.3%).¹⁴ Fallopian tube cancer was among the rare gynecological malignancy (1.27%) in our

study which was similar as reported by Ajith et al (1%).¹⁵

The most common histopathology of ovarian cancer in our study was serous cystadenocarcinoma which is similar to a study done in Pakistan.¹⁶ Squamous cell non-keratinizing type of cervical cancer is the most common histopathological presentation noted in our study and other studies in Nepal.^{11,17} Endometroid adenocarcinoma variety was the commonest endometrial cancer in our study which is correlating with findings in another study.⁹ Thus serous adenocarcinoma is the most common ovarian cancer, non-keratinizing squamous cell cancer is the most common cervical cancer and endometroid adenocarcinoma is the most common endometrial carcinoma in the present study.

In this study, the majority of women presented at an early stage among all the gynecological malignancies. In ovarian cancer 59% of case present in stage 1, 17.6% in stage 2, 21.38% in stage 3. In a hospital-based study done in Peshawar in 2014, 32% of women with ovarian cancer presented in stage 1, 26% in stage 2, and 40% in stage 3.⁶ In the present study 25.26% among cervical cancer were in stage 1, 37.89% in stage 2, 36.84% in stage 3 which is less compared to the study done in two big referral center of Nepal where 80.9% were presented at (> stage 2).¹⁸ The early presentation noted in this study could be because the hospital being in an urban area the patients were conscious of their symptoms and came to the hospital earlier. In the present study 69% of endometrial cancer presented in the early stage (1,2) which is similar to a study published by Sultan et al¹⁹ in which 86% of endometrial cancer presented in stage 1. Gestational trophoblastic neoplasia was found 66% in stage 1 which is similar to a study done by Sarkar et al in India.²⁰ Thus we found 71% of gynecological malignancies present in early-stage and 29% in late-stage in our present study.

CONCLUSIONS

Ovarian cancer was the most common gynecological malignancies followed by cervical and endometrial carcinoma in the present study. Most of the carcinoma is presented in the early stage.

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