



MALIGNANT TUMOURS OF THE FEMALE GENITAL TRACT- A TEACHING HOSPITAL BASED ANALYSIS

Obstetrics & Gynecology

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ABSTRACT

Background: Gynecological malignancy is one of the commonest malignancies worldwide and an important cause of cancer morbidity and mortality worldwide. Cervical, endometrial and ovarian cancers are relatively more common, whereas vulval, vaginal, fallopian tube cancers and choriocarcinoma are very rare. Despite the high frequency of some female genital tumors in our environment, there is paucity of literature on the subject. Therefore, this study was designed to provide information regarding the pattern of gynecological malignancies and their relative frequencies in relation to age and sites of female genital tract.

Methods: This was a teaching hospital based retrospective study over a period of two years consisting of a total of 52 malignant cases.

Results: The most common site of involvement was cervix(50%) followed by ovary(36.5%),corpus uteri(11.5%) and vagina(2%). No case of vulval or fallopian tube cancer was seen. Cervical carcinoma was more common in 4th and 5th decade of life. Majority of the cervical cancers were squamous cell carcinomas followed in frequency by adenosquamous carcinomas and adenocarcinomas. Amongst the ovarian cancer cases, maximum age incidence was found in 41-50 years followed by 21-30 years. Most of the ovarian cancers were mucinous cystadenocarcinomas followed by serous cystadenocarcinomas and metastatic ovarian tumours. Out of total 6 cases of cancer of corpus uteri, three were endometrial adenocarcinomas and three were low grade endometrial sarcomas. All the endometrial adenocarcinomas were seen after 40 years of age where as , sarcomas were predominantly seen in age <30 years. Only one case of vaginal ca was seen in two years.

Conclusion: In this cross sectional study, we found more cervical cancer than other gynaecological malignancies. Cervical cancer is largely a preventable disease. There is the need to increase public awareness on the risk factors and the Government and non-governmental bodies should establish sustainable national and regional cervical cancer screening programs and ensure HPV vaccine available and affordable to the women.

KEYWORDS

Cancer, Cervix, Vagina, Endometrium, Ovary

INTRODUCTION

Gynecological malignancy is one of the commonest malignancies worldwide and an important cause of cancer morbidity and mortality worldwide. Cervical, endometrial and ovarian cancers are relatively more common, whereas vulval, vaginal, fallopian tube cancers and choriocarcinoma are very rare. The distribution and frequency of these tumors vary from one region to the other.¹ Cervical cancer is the fourth most common cancer affecting women worldwide, after breast, colorectal and lung cancers. It is also the fourth most common cause of cancer death in women worldwide. Almost 70% of the global burden falls in areas with lower levels of socioeconomic development. High frequency rates are found in Eastern, Western, Southern and Central Africa, South-Central Asia and South America. Rates are lowest in Western Asia, North America ,Australia and New Zealand.²

Endometrial cancer is the sixth most common cause in women worldwide and leading female genital malignancy in the United States and other developed nations. Cancers of ovary and ovarian adnexae, including fallopian tube cancer, constitute the eight most common cancers among women worldwide. The incidence of ovarian cancers ranks below only carcinoma of cervix and endometrium among the cancers of the female genital tract.² Age and parity are known to affect the incidence of gynecological cancers. Endometrial and ovarian cancers occur later in reproductive life than carcinoma of the cervix which is seen commonly in premenopausal or perimenopausal women. In different parts of India and adjacent countries, studies related to female genital organs were attempted and almost all of them concluded with cervical carcinoma as the commonest malignant neoplasm. In some patients, multiple organs are involved simultaneously causing unbearable symptoms. Late presentations of cases are also a considerable problem due to lower literacy rate, shyness and social stigma among females especially rural ones. In combating the incidence, the role of preventive measures is immense. In the developing world, health education to females is indispensable to overcome it.^{3,4,5}

Despite the high frequency of some female genital tumors in our environment, there is paucity of literature on the subject. Therefore, this study was designed to provide information regarding the pattern of

gynecological malignancies and their relative frequencies in relation to age and sites of female genital tract. These findings could have a significant implication to devise strategies for effective screening, early diagnosis and timely management to reduce the morbidity and mortality from these cancers

METHODS

Study period

The present study was a teaching hospital based retrospective study for a period of two years from January 2016 to December 2017 conducted in the Department of Obstetrics and Gynecology of Shri Guru Ram Rai Institute of Medical and Health Sciences, Dehradun.

Inclusion criteria

All the females with malignancies of the reproductive tract confirmed on histopathology were included in this study.

Exclusion criteria

The reproductive tract surgical patients in whom benign, carcinoma-in-situ or intraepithelial neoplasia cause was established. The borderline cases which were anyhow confusing and unconfirmed.

Study population.

The study population included all the female patients consulting Obstetrics and Gynecology outpatient department and indoor admitted cases which underwent clinical examination and appropriate investigations like cervical smear examination, ultrasound and CT scan and surgical interventions,, as and when required, and confirmed by the histopathological examination of the biopsy/tissue specimen. Finally, 52 malignant cases were confirmed. The data of these cases was analyzed on the basis of age, parity, location of involved organ, staging and histological diagnosis. According to WHO classification, diagnosis of different organs were established. Most of the patients diagnosed with the early stage of malignancies underwent surgical treatment and patients who required primary chemotherapy/ radiotherapy were referred to cancer institute.

RESULTS

A total of 52 malignancies were diagnosed in a period of two years. The

most common site of involvement was cervix(50%) followed by ovary (36.5%),corpus uteri(11.5%) and vagina(2%).

No case of vulvar or fallopian tube cancer was seen.(Figure 1)

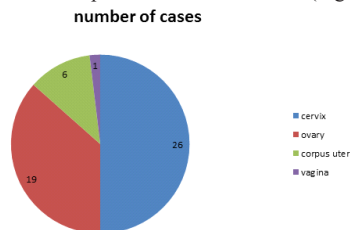


Figure 1.Relative distribution of gynecological cancers

Age distribution (Table 1).

Cervical carcinoma was equally common in 31-40 years age group and 41-50 years age group followed by 51-60 years age group; very few cases were seen after 60 years of age. The age range valued from 29 to 73 years in cervical cancer patients.

Amongst the ovarian cancer cases, maximum age incidence was found in 41-50 years followed by 21-30 years. Very few cases were seen in the extremes of age i.e. <20 and >70 years. The age ranged from 12-84 years.

Out of total 6 cases of cancer of corpus uteri, three were endometrial adenocarcinomas and three were low grade endometrial sarcomas. All the endometrial adenocarcinomas were seen after 40 years of age where as, sarcomas were predominantly seen in age <30 years.

Only one case of vaginal ca was seen in two years.

Table 1.Age distribution of gynecological malignancies

Age group	Cervix	Corpus uteri	Ovary	Vagina	Total
< 20	0	0	1	0	1
21-30	1	2	5	0	8
31-40	7	1	2	0	10
41-50	7	1	6	0	14
51-60	6	1	1	0	8
61-70	3	1	3	1	8
71-80	2	0	0	0	2
>80	0	0	1	0	1
Total	26	6	19	1	52

Histopathology (Table 2)

Majority of the cervical cancers were squamous cell carcinomas followed in frequency by adenosquamous carcinomas and adenocarcinomas. One case of cervical cancer was poorly differentiated cancer.

Most of the ovarian cancers were mucinous cystadenocarcinomas followed by serous cystadenocarcinomas and metastatic ovarian tumours. One each case of endodermal sinus tumour, embryonal carcinoma and granulosa cell tumour was found.

Amongst the cancers from corpus uteri, half were adenocarcinomas and half were endometrial stromal sarcomas.

The only vaginal cancer which was detected was squamous cell in origin.

Table 2. Distribution of histological types of malignancies in different organs

Organ	Histologic type	Number of cases	Total
Cervix	Squamous cell carcinoma	19	26
	Adenocarcinoma	3	
	Adenosquamous carcinoma	3	
	Poorly differentiated	1	
Ovary	Mucinous cystadenocarcinoma	8	19
	Serous cystadenocarcinoma	4	
	Endodermal sinus tumour	1	
	Embryonal cell carcinoma	1	
	Granulosa cell tumour	1	
	Metastatic tumours	4	

Corpus uteri	Endometroid type adenocarcinoma of endometrium	3	6
	Endometrial stromal sarcoma	3	
Vagina	Squamous cell carcinoma	1	1

Parity (Table 3)

Half of the cervical, one-fifth of the ovarian cancers and one third of the endometrial cancers were among grand-multipara (≥ 4)

Table 3. Parity wise distribution of gynecological malignancies

Parity	Cervix	Ovary	Corpus uteri	Vagina
0	0	2	0	0
1	0	4	0	0
2	6	7	2	0
3	7	3	2	1
>4	13	3	2	0
Total	26	19	6	1

Staging

Cancers were diagnosed and staged by clinical, laboratory, imaging and surgical means. The stage wise distribution of cervical cancer was 12 in stage I, 8 in stage II, four in stage III and two in stage IV. There were 77% surgically operable tumors of cervix. Ovarian cancers were in two in stage I, five in stage II, eight in stage III and four in stage IV. Two cases of endometrial carcinoma were in stage I and one in stage II.

DISCUSSION

The age of the cancer patients of female genital tract ranged from 12 to 85 years with a mean age 43.91 ± 12.84 years. Most of the patients were in the age group of 41-50 years. Similar to our study, Talukder et al in their study found mean age of 45 years and maximum patients were in the 5th decade of life.⁶ The pattern of gynecological malignancies is different in various geographical areas. Cervical cancer is one of the leading cancers in women worldwide; 70% of new cases occur in developing countries.² In our study, the cervix was found to be the commonest site of malignant tumors of the female genital tract; it constitutes 50% of total gynecological cancers. Similar trend was seen in various other studies.^{2,6,7}

In this study mean age at presentation of carcinoma cervix was 46.64 ± 10 years, which slightly differs from 50.3 and 59 years reported elsewhere.^{11,13} Majority of the patients were in the 4th, 5th and 6th decade which is in contrast to other studies wherein maximum patients were in 5th decade of life.^{12,14} Jamal et al and Okeke et al found majority of the patients in the 6th

decade of life.^{11,15} The commonest histopathological type of cervical cancer was squamous cell carcinoma (73%) and this was followed by adenocarcinoma and adenosquamous carcinoma. The trend is similar to other studies.^{6,11} Adenocarcinoma is said to be increasing and up to 20% to 25% is reported in some series.¹⁶

Vaginal bleeding was ascertained in near about three-fourth cases and 63% had complaints of fluid discharge. Vaginal bleeding was ascertained 64-84% in other studies.^{10,11} Incidence of cervical carcinoma is more common in developing countries. In our study, almost one fourth of cervical carcinoma cases presented in advanced stage of disease.

Ovary was the second leading site among gynaecological malignancies at our center (36.5%), similar to other national and international studies.^{6,9,14,15} Although, the proportion it forms in this series, 36.5% is quite higher as compared to some other studies.^{13,14} Most of the cases were in third or fifth decade of life and only 5.3% cases were seen below 20 years of age. Jamal et al found this tumor in all age groups and 3.6% cases were seen in the pediatric age group.¹¹ The mean age was 37.16 ± 14.66 years which is similar to 37 years reported in another national study.⁶

Surface epithelial tumors formed the main histological group not only in this analysis but in other studies.^{12,14} Mucinous cyst adenocarcinoma was the commonest cancer encountered by us similar to study by Ahmed et al¹⁹ whereas others^{6,11} found serous cyst adenocarcinoma to be the commonest variety. Metastatic tumors were found more frequently in this study as well as in other studies.^{6,11}

Endometrial malignancies were the third most common in this study, this agrees with many studies.^{6,11,16} The incidence of this malignancy is

higher in the more developed countries and lower in Asia and Africa.^{8,12,14} It constitutes 11.5 % of gynaecological malignancies in this series, which is higher to the figure of 6.5% in other studies.^{14,17,18} As many studies, endometrioid carcinoma is the main histopathologic type in this study.^{6,8,11} Others found choriocarcinoma as the commonest lesion of corpus uteri.¹⁷ All the cases presented with abnormal uterine bleeding.

Only one case of vaginal malignant tumor (2%) was detected in this study which agrees with many reports.^{2,11} Irregular vaginal bleeding was the presenting complaint. No case of vulval cancer was seen. However, Ullah et al found high rates of vulval and vaginal cancers, 17.8% and 27.7% respectively.²⁰

CONCLUSION

In conclusion, in this cross sectional study we found more cervical cancer than other gynaecological malignancies which was followed by cancers of ovary and uterine corpus. Most of the patients were in the 41-50 years age group. Squamous cell carcinoma was the most frequent malignant tumor of the cervix. Adenocarcinoma was the most common malignancy in ovary and corpus uteri. Cervical cancer is largely a preventable disease.

There is the need to increase public awareness on the risk factors and the Government and non-governmental bodies should establish sustainable national and regional cervical cancer screening programs and ensure HPV vaccine available and affordable to the women.

DECLARATIONS

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REFERENCES

1. Ellenson LH, Pirog EC. The Female Genital Tract. In: Robbins and Cotran Pathologic basis of disease. 8th edn. Philadelphia: Elsevier Saunders, 2010; 1005-1063.
2. Ferlay J, Soerjomataram I, Ervik M, Dikshit R, Eser S, Mathers C, et al. GLOBOCAN 2012 v1.0, Cancer Incidence and Mortality Worldwide: IARC CancerBase No. 11 [Internet]. Lyon, France: International Agency for Research on Cancer 2013.
3. Arya A, Narula R, Singh S, Narula K. Benign and malignant tumors of cervix: 10 years study. Int J Med Health Sci. 2015;4(2):186-89.
4. Dhakal HP, Pradhan M. Histopathological pattern of gynecological cancers. J Nepal Med Assoc. 2009;48:301-05.
5. Moore MA, Sobue T. Strategies for cancer control on an organ-site basis. Asian Pac J Cancer Prev. 2010(Suppl);11:149-64.
6. Talukder SI, Haque MA, Alam MO, Huq MH, Roushan A, Jahan MK, et al. Gynaecological cancers in surgical specimens in Mymensingh, Bangladesh, 2006. Bangladesh J Pathol 2008; 23(1): 2-4.
7. Banu PA, Rukhsana N, Yasmin J, Nahar L, Malik SR. Analysis on the incidence, staging and treatment of carcinoma cervix at Delta Medical College and Hospital of Bangladesh. Delta Med Col J 2013; 1(2): 31-36.
8. Chhabra S, Sonak M, Prem V, Sharma S. Gynaecological malignancies in a rural institute in India. J Obstet Gynaecol 2002; 22(4): 426-429.
9. Dhakal HP, Pradhan M. Histological pattern of gynaecological cancers. J Nepal Med Assoc 2009; 48: 301-305.
10. Sultana S, Huq M, Alam A, Mitra DK, Gomes DJ. Prevalence and genotyping of human papillomavirus in female with high-risk behavior in Dhaka, Bangladesh. Bangladesh J Microbiol. 2008; 25(1):65-68.
11. Jamal S, Mamoon N, Mushtaq S, Luqman M, Moghal S. The pattern of gynecological malignancies in 968 cases in Pakistan. Ann Saudi Med 2006; 26(5): 382-384.
12. Mohyuddin S, Sultana N, Butt KA, Mohyuddin A. Patterns of gynaecological malignancies at a tertiary care hospital. Pakistan Journal of Medical and Health Sciences 2012; 6(1).
13. Ashraf T, Haroon S. Frequency of gynaecological malignancies and outcome at a tertiary care hospital. Professional Med J 2013; 20(5): 752-758.
14. Kyari O, Ngada H, Mairiga A. Malignant tumors of female genital tract in North Eastern Nigeria. East African Medical J 2004; 81(3): 142-145.
15. Okeke TC, Onah N, Ikeako LC, Ezenyeaku CCT. The frequency and pattern of female genital tract malignancies at the University of Nigeria Teaching Hospital, Enugu, Nigeria. Ann Med Health Sci Res 2013; 3(3): 345-348.
16. Vizcaino AP, Moreno V, Bosch FX, Munoz N, Barros-Dios XM, Parkin DM. International trends in the incidence of cervical cancer: I. Adenocarcinoma and adenosquamous cell carcinomas. Int J Cancer 1998; 75(4): 536-545.
17. Briggs ND, Katchy KC. Pattern of primary gynaecological malignancies as seen in a tertiary hospital situated in the River State of Nigeria. Int. J. Gynaec. Obst. 1990; 31(2):157-161.
18. Nkyekyer K. Pattern of gynaecological cancers in Ghana. East African Medical Journal 2000; 77(10): 534-548.
19. Ahmad Z, Kayani N, Hasan SH. Histological pattern of ovarian neoplasm. J Pak Med Assoc 2000; 50: 416-419.
20. Ullah E, Lail RA, Taj N, Alam MI. Malignant and benign lesions of female genital tract – an experience at a tertiary care hospital in Bahawalpur - Pakistan. Biomedica 2012; 28(2): 149-152. 2014 Volume 82 26 Number 02