FREQUENCY AND CLINICOPATHOLOGICAL PRESENTATION OF GYNAECOLOGICAL MALIGNANCIES

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ABSTRACT

Objectives: To describe the frequency and clinicopathological presentation of malignancies of the female genital tract presenting to a tertiary care hospital.

Methodology: This descriptive study was carried out at Department of Obstetrics and Gynaecology, Unit A of Khyber Teaching Hospital, Peshawar from January 2008 to December 2012. A total of 4657 patients were admitted during the study period and all the patients having genital tract malignancies were included. Detailed history was taken and relevant examinations and investigations were carried out. Surgical procedures were performed where needed and specimens were sent for histopathology. Clinical and surgical staging was also carried out. All the details were noted down on a semi-structured proforma.

Results: There were 43 cases of gynaecological malignancies with mean age of 43.74±15.51 years. Ovarian cancer was the most common (n=22, 51.22%) followed by uterine cancer (n=10, 23.33%). The majority of patients diagnosed with ovarian cancers (n=9/22, 40.94%) were nulliparous, whereas the majority of uterine and cervical cancers were multiparous (n=7/10, 70.0%) and grandmultiparous (n=7/9, 77.78%), respectively. Ovarian cancers mostly presented with an abdominal mass (n=16/22, 72.7%) while uterine and cervical cancer presented with irregular cycles (n=7/10, 70.0%) and post coital bleeding (n=4/10, 40%). Advanced stage cancer cases were 19/43 (44.22%). Serous cystadenocarcinoma was the most common ovarian malignancy (n=16/22, 72.73%) while endometrioid adenocarcinoma (n=9/10, 90%) was the most common uterine carcinoma and squamous cell carcinoma was the most common cervical carcinoma (n=7/9, 77.88%).

Conclusions: Ovarian cancer was the most commonly encountered malignancy although all gynaecological malignancies are rare.

Key Words: Gynaecological malignancies, Ovarian cancer, Uterine cancer, Cervical cancer.

INTRODUCTION

Cancer is the second leading cause of death and disability worldwide, behind only heart disease[1]. More people die from cancer every year than human immunodeficiency virus, tuberculosis and malaria combined[2-4]. Contrary to views three decades ago when cancer was more prevalent in the developed world and developing countries accounted for a mere 15% of global cancer burden, the burden is now shifting significantly to the developing countries[1].

The burden of gynaecological cancer in developing countries is increasing and accounts for 25% of all new cancers diagnosed among women aged up to 65 years compared to 16% in the developed world[5].

Cervical cancer is the commonest gynaecological malignancy in developing countries where screening programmes do not exist[3]. When such programmes exist, ovarian cancer is not only the most common of the gynaecological caners but also the most lethal having an overall five years survival of only 42.9% in the United Kingdom[6]. This overall poor survival is mainly due to late diagnosis because of paucity of symptoms in early stages and non-specific symptoms, such as bloating as disease progresses. Uterine cancers have been regarded as the least challenging because of early detection and high cure rate[3]. Vulvar and vaginal cancers are rarer forms of genital tract malignancies[6].

The estimation of cancer burden is valuable to devising public health priorities. Due to the absence of accurate population and health statistics in Pakistan, it is not possible to reliably calculate incidence rates of various cancers. Under these circumstances, we have to rely on relative frequencies in hospitals as a measure of incidence of cancer.

This study was thus carried out to find out the frequency and determine the clinicopathological pattern of gynaecological malignancies including age, parity, clinical presentation and histopathological type of cancer. To our knowledge, no similar study has been reported from this part of Pakistan since 2002[7]. Thus, this data may help in raising awareness about considering cancer as a probable diagnosis in the face of non-responding and long standing symptoms and formulating strategies of effective screening, early diagnosis and timely management to reduce the associated morbidity and mortality.

METHODOLOGY

This descriptive study was conducted at the Department of Obstetrics and Gynaecology, Unit A of Khyber Teaching Hospital Peshawar from the 1st January 2008 to 31st December 2012. All the patients diagnosed with genital tract malignancies were included in the study. Detailed history and examination was undertaken and the relevant investigations were carried out. Surgical procedures were performed where needed and specimens were sent for histopathology as per standard clinical practice. Cancer was staged clinically and surgically according to FIGO classification system[8]. All the details were noted down on a semi-structured proforma designed for this study. The variable studied were age, parity, clinical presentation, stage of the cancer and final histopathological type of cancer. SPSS 14 was used to perform simple descriptive statistics.

RESULTS

The total number of admissions during the study period was 4657, of which 43 (0.9%) were gynaecological cancers. The mean age of patients was 43.74±15.51 years (range: 15 - 80 years). The frequency of ovarian cancer was highest (n=22, 51.2%) followed by uterine cancer (n=10, 23.3%) [Table 1].

Out of 43, 18 patients were grand-multiparous followed by 14 multiparous patients. Most of the ovarian cancers (n=9/22, 40.91%) were in nulliparous group while majority of uterine cancers were multiparous (n=7/10, 70%) and most cervical cancers were grand-multiparous (n=7/9, 77.78%) [Table 1].

The frequencies of common clinical features are outlined in table 2. There is an overlap between the clinical presentations of these cancers as few patients presented with more than one symptom. Ovarian cancers mostly presented with abdominal mass (n=16) while uterine and cervical cancer presented with irregular cycles (n=7); and post coital (n=4)/ postmenopausal bleeding (n=3), respectively.

A total of 19 (44.19%) cases were in advanced stage cancer. Out of these, 12 cases of ovarian cancer, 5 uterine and one each of cervical and vulvar cancer presented in advanced stages (FIGO stage 3 and 4) [Table 3].

Serous cystadenocarcinoma was the major ovarian malignancy (n=16/22, 72.73%) followed by mucinous cystadenocarcinoma (n=3/22, 13.64%). Most common uterine cancer was endometrioid adenocarcinoma (n=9/10, 90%) while most common cervical cancer was squamous cell carcinoma (n=7/9, 77.78%). Both cases of vulvar carcinomas were squamous cell carcinoma (n=2/2, 100%) [Table 3].

Table 1: Age and parity distribution of patients with gynaecological malignancies (n=43)

Variables		Ovary n=22 (51.16%)	Uterus n=10 (23.26%)	Cervix n=9 (20.93%)	Vulva n=2 (4.65%)
Age Range	40 and Below	6 (13.95%)	6 (13.95%)	1 (2.33%)	—
	41 – 49	5 (11.63%)	1 (2.33%)	4 (9.30%)	1 (2.33%)
	51 – 59	5 (11.63%)	2 (4.65%)	3 (6.98%)	—
	60 and above	6 (13.95%)	1 (2.33%)	1 (2.33%)	1 (2.33%)
Parity	Nulliparous	9 (20.93%)	1 (2.33%)	—	—
	Primiparous	1 (2.33%)	—	—	—
	Multiparous	5 (11.63%)	7 (16.28%)	2 (4.65%)	—
	Grandmultiparous	7 (16.28%)	2 (4.65%)	7 (16.28%)	2 (4.65%)

Table 2: Clinical presentation of different gynaecological cancers*

Presenting Symptoms	Ovary	Uterus	Cervix	Vulva
Irregular Bleeding	3 (6.98%)	7 (16.28%)	2 (4.65%)	—
Postmenopausal Bleeding	2 (4.65%)	1 (2.33%)	3 (6.98%)	—
Post coital Bleeding	—	—	4 (9.30%)	—
Vaginal Discharge / Itching	—	—	—	2 (4.65%)
Abdominal Mass	16 (37.20%)	—	—	—
Abdominal Pain	4 (9.30%)	—	—	—

* Few patients presented with more than a single symptom.

Table 3: The stage of presentation and histopathological types of gynaecological cancer (n=43)

Variables		Ovary n=22 (51.16%)	Uterus n=10 (23.26%)	Cervix n=9 (20.93%)	Vulva n=2 (4.65%)	Total n=43 (4.65%)
Stage	Stage 1	7 (16.28%)	—	4 (9.30%)	—	11 (25.58%)
	Stage 2	3 (6.98%)	5 (11.63%)	4 (9.30%)	1 (2.33%)	13 (30.23%)
	Stage 3	2 (4.65%)	3 (6.98%)	—	1 (2.33%)	6 (13.95%)
	Stage 4	10 (23.26%)	2 (4.65%)	1 (2.33%)	—	13 (30.23%)
Histoto-pathological types	Serous cystadenocarcinoma	16 (37.20%)	—	—	—	16 (37.20%)
	Mucnious cyptadenocarcinoma	3 (6.98%)	—	—	—	3 (6.98%)
	Germ cell tumor	1 (2.33%)	—	—	—	1 (2.33%)
	Granulosa cell tumor	1 (2.33%)	—	—	—	1 (2.33%)
	Sertoli Leideg cell carcinoma	1 (2.33%)	—	—	—	1 (2.33%)
	Endometroid adenocarcinoma	—	9 (20.93%)	—	—	9 (20.93%)
	Adenocarcinoma	—	1 (2.33%)	1 (2.33%)	—	2 (4.65%)
	Clear cell carcinoma	—	—	1 (2.33%)	—	1 (2.33%)
	Squamous cell carcinoma	—	—	7 (16.28%)	2 (4.65%)	9 (20.93%)

DISCUSSION

Gynaecological cancers formed 0.92% of all gynaecological admissions in our study which is high in comparison to 0.32% stated by Mohyuddin et al[9] in their study conducted at Rawalpindi - Pakistan in 2009-10. This can be attributed to easy availability and widespread use of ultrasound facility in our set up which may have contributed to the increased rate of diagnosis of carcinomas. However, Briggs et al reported a high incidence of 4.18-4.7% in Nigeria with majority having cervical cancers, which may have been due to increased poverty, lack of education, inadequate medical facilities and late presentation to hospital by the patients[10].

In our study ovarian cancer was the most common gynaecological malignancy which is comparable with the reports from other studies[7, 11-13]. Lee et al reported 30% incidence of ovarian cancer in his report[14] but we had 51.1% cases with ovarian malignancies and the same is reported in other national studies[9, 15]. Studies from Africa report cervical cancer as the most common genital tract cancer[16-18]. Low prevalence of cervical cancer in our study may be due to less smoking in ladies, adherence to social norms, religious practices and male circumcision[19].

Ovarian cancers were seen in all age groups with a mean of 46.5 years which is reported similarly in other national studies20. The peak incidence of cervical cancer in this study was in the 41-59 years age group which coincides with results reported by Jamal et al[20].

Ovarian cancers were common in nulliparous women and cervical cancer was common in multiparous women[12]. In nulliparous women, repeated ovulations and rupture of ovarian surfaces predisposes to ovarian carcinoma.

Most patients having ovarian carcinoma presented with abdominal mass and pain which is similar to the results reported in a study by Junejo et al[21]. Cervical and endometrial cancers presented with postcoital and postmenopausal bleeding while patients with cancer of vulva presented with abnormal vaginal discharge and itching. This is similar to the results reported in other studies[20].

Of ovarian cancers, serous cystadenocarcinoma were most frequent followed by mucinous cystadenocarcinoma. A similar pattern is reported in other studies[12], [20-22]. Squamous cell carcinoma was the main histological type in cervical carcinoma. Similar trend is shown by other studies[23, 24]. Endometroid adenocarcinoma was the main histological type in uterine carcinoma group. It compared favorably with the results of a study already published[25].

CONCLUSION

Ovarian cancer was the most common observed malignancy in our setup. The majority of patients were under 50 years of age. Grand multiparous were the largest group. Ovarian cancers mainly presented with abdominal mass while uterine and cervical cancers presented with menstrual irregularities. Serous cystadenocarcinoma and endometrioid adenocarcinoma were the most common ovarian and uterine cancers, respectively.

REFERENCES

1. Economist Intelligence Unit. Breakaway: the global burden of cancer-challenges and opportunities. London: The Economist; 2009.

2. Parkin DM, Bray F. Ferlay J, Pisani P. Global cancer statistics, 2002. CA Cancer J Clin 2005;55:74-108.

3. GLOBOCAN 2008: fast stats [Online]. 2008 [cited on 2013 April 24]. Available from: http://www.herbogeminis.com/IMG/pdf/globocan_2008.pdf

4. Boyle P, Levin B. World cancer report 2008. Lyon: International Agency for Research on Cancer; 2008.

5. Ferlay J, Bray F, Norman D, Mathers C, Parkin DM. GLOBOCAN 2008: cancer incidence and mortality worldwide. Lyon: International Agency for Research on Cancer; 2008.

6. Cancer Research UK: Ovarian cancer survival statistics. [Online]. 2011 [cited on 2014 March 14]. Available from URL: http://www.cancerresearchuk.org/cancer-info/cancerstats/types/ovary/survival/ovarian-cancer-survival-statistics

7. Nasreen F. Pattern of gynaecological malignancies in a tertiary hospital. J Postgrad Med Inst 2002;16:215-20.

8. Odicino F, Pecorelli S, Zigliani L, Creasman WT. History of the FIGO cancer staging system. Int J Gynaecol Obstet 2008;101:205-10.

9. Mohyuddin S, Sultana N, Butt KA, Mohyuddin A. Patterns of gynaecological malignancies at a tertiary care hospital. Pak J Med Health Sci 2012;6:47.

10. Briggs ND, Katchy KC. Patterns of primary gynaecological malignancies as seen in a tertiary hospital situated in the Rivers State of Nigeria. Int J Gynecol Obstet 1990;31:157-61.

11. Ahmad Z, Kayani N, Hasan SH. Histological pattern of ovarian neoplasm. J Pak Med Assoc 2000;50:416-9.

12. Aziz F, Malik M, Yousaf N. The pattern of ovarian malignancies: a retrospective study over a period of three years. Ann King Edward Med Uni 1999;5:276-8.

13. Jamal S, Mamoon N, Mushtaq S, Luqman M, Mughal S. The pattern of gynaecological malignancies in 968 patients from Pakistan. Ann Saudi Med 2006;26:382-4.

14. Lee KR, Tavassoli FA, Prat J. Surface epithelial stromal tumors. In: Tavassoli FA, Devilee P, editors. Pathology and genetics of tumors of the breast and female genital organs. Lyon: IARC Press; 2003.

15. Ahmad M, Khan AH, Mansoor A. The pattern of malignant tumors in Northern Pakistan. J Pak Med Assoc 1991;41:270-3.

16. Rogo KO, Omany J, Ojwang SB, Stendahl U. Carcinoma of the cervix in the African setting. Int J Gynecol Obstet 1990;33:249-55.

17. Kasule J. The Pattern of gynaecological malignancy in Zimbabwe. East Afr Med J 1989;66:393-9.

18. Kyari O, Nggada H, Mairiga A. Malignant tumors of female genital tract in North Eastern Nigeria. East Afr Med J 2004;81:142-5.

19. Welsh Cancer Intelligence & Surveillance Unit. Cancer incidence in Wales 2006-2010. Cardiff: WCISU; 2012.

20. Jamal S, Malik IA, Ahmad M, Mushtaq S, Khan AH. The pattern of malignant ovarian tumors: a study of 285 consecutive cases at the Armed Forces Institute of Pathology, Rawalpindi. Pak J Pathol 1993;4:107-10.

21. Junejo N, Shaikh F, Mumtaz F. Clinical presentation and treatment outcome of ovarian tumors at gynaecology ward. J Liaquat Uni Med Health Sci 2010;9:30-2.

22. Ahmed M, Malik MT, Afzal S, Mubarak A. Clinicopathological study of 762 ovarian tumors at Army Medical College, Rawalpindi. Pak J Pathol 2004;15:147-52.

23. Web MJ. Female genital cancer. In: Morris D, Kearsley J, William C, editors. Cancer: a comprehensive clinical guide. Amsterdam: Harwood Academic Publisher; 1998.

24. Vizcaino AP, Morino V, Bosch FX, Muñoz N, Barros-Dios XM, Parkin DM, et al. International trends in the incidence of cervical cancer: I. Adenocarcinoma and adenosqua-mous cell carcinomas. Int J Cancer 1998;75:536-45.

25. Chhabra S, Sonak M, Prem V, Sharma S. Gynacological malignancies in a rural institute in India. J Obstet Gynae-col 2002;22:426-9.

CONTRIBUTORS

ZA planned the study and wrote manuscript. AM, TN, QQ and AS helped in data analysis and manu-script writing. TJ supervised the study. All authors contributed significantly to the final manuscript.