Original Article

Pattern of Gynaecological Malignancies at a University Teaching Hospital in Southwest Nigeria: A 5-Year Review

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Abstract

Background: The study determined the pattern and distribution of gynaecological cancer cases seen at a university teaching hospital in southwest Nigeria over a 5-year period.

Methodology: It was a 5-year retrospective review of all gynaecological cancer cases seen and managed at the hospital from 1 September 2013 to 31 August 2018.

Results: A total of 6247 gynaecological admissions and 902 gynaecological cancers were seen in the hospital during the study period accounting for a proportion of 14.4%. Of these 902 cases, 835 (92.6%) women had their detailed records available for data extraction and analyses. Cervical cancer was the most commonly seen malignancy (61.7%). The mean age of the patients was 52.5 ± 12.4 years with the largest proportion of the women being in the age group of 50–59 years (26.9%). A large proportion (35.6%) of the patients had a parity of 5 or more with an overall median parity of 4 (IQR, 1–5) while the largest proportion (59.1%) were postmenopausal women. The highest mean age was seen in women with vulvar cancer (67.2 ± 0.6 years) while the lowest was in those with sarcoma botryoides (12.3±1.01 years).

Conclusion: There was a steady annual increase in the number of gynaecological cancer cases at the hospital during the period under review. The most common cancers seen in this study are associated with advanced age, increased parity and postmenopausal status. There is a need for improved public enlightenment on the importance of routine screening and for consistent government policy on the institution of an effective organised screening programme for cervical cancer.

Keywords: Cervical cancer; Gynecological cancer; Nigeria; Sarcoma botryoides; Vulvar cancer.

Introduction

Cancer is expected to rank as the leading cause of death and the single most important contributor to reduced life expectancy in every country of the world in the 21st century.[1] Cancer incidence and mortality are rapidly growing worldwide,[1,2] and the reasons for these are complex but reflect both increased ageing and growth of the population, as well as changes in the prevalence and distribution of the main risk factors for cancer occurrences. Several of these are associated with socioeconomic development and the westernisation of diets.[1-3] Cancer transitions are most striking in emerging economies, where an increasing magnitude of the disease is paralleled by a changing profile of common cancer types.[1-3]

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Gynaecological malignancies are cancers of the female genital tract which include those of the vulva, vagina, cervix, uterus, fallopian tube, ovary and gestational trophoblastic tumours. The pattern of gynaecological malignancies varies among nations and even among health institutions in the same country,[4] and these variations are mainly due to different genetic patterns, lifestyles, environmental, socio-cultural and economic factors.[4,5] It is noteworthy that high-quality cancer registry data, the basis for the planning and implementation of evidence-based cancer control programmes, are not available in most low- and middle-income countries (LMIC). [1,2] With the rapid growth and ageing of the population in many countries of the world, the rising prominence of cancer as a leading cause of death now partly reflects the marked declines in mortality from cardiovascular diseases such as stroke and coronary artery disease, relative to cancer.[1,4]Theextent to which cancer is positioned as a cause of premature death is a reflection of the national levels of social and economic development.[1,2]

Worldwide, breast cancer is the most commonly diagnosed cancer in females and the leading cause of cancer death, followed by colorectal and lung cancer.[1] Cervical cancer, with an estimated 570,000 cases and 311,000 deaths in 2018 worldwide, ranks as the fourth most frequently diagnosed cancer and the fourth leading cause of cancer death in women.[1-3,5] It only ranks second in incidence and mortality behind breast cancer in most low-income settings[1,3] with the highest regional incidence and mortality rates seen in sub-Saharan Africa.[1] The incidence of cervical cancer in most western countries has declined since the early 1980s when effective cervical cancer screening became the standard of care, unlike what is obtainable in developing countries where opportunistic screening is the norm.[5] Approximately 80% of cervical cancer cases are reported in developing countries.[5-7] The disparity in incidence between the developing and developed world can also be attributed to a lack of awareness of cervical cancer, poverty, poor access to medical care and the focus on other competing national health priorities such as HIV/AIDS, tuberculosis and malaria.[5,6] Globally, ovarian cancer is the leading cause of gynaecological cancer death and this is mostly due to its late-stage diagnosis.[5,6] Endometrial cancer is more common in developed countries such as the United States, Northern Europe, Eastern Europe and North America.[1,7]Despitethe high incidence and mortality of some of these genital tract cancers in our environment, there is a dearth of reliable facility- or population-based cancer registries, which in turn leads to poor or inadequate government planning in the care of cancer patients in the country. This study was, therefore, aimed to determine the pattern and distribution of gynaecological cancer cases seen at a university teaching hospital in southwest Nigeria over 5-years (from September 2013 to August 2018).

Materials and Methods

Study design and setting

The study was a retrospective review of all gynaecological cancer cases seen at a university teaching hospital in southwest Nigeria between September 2013 and August 2018. The hospital is one of the largest tertiary health institutions in Nigeria. It has an 800-bed capacity and it is a referral centre for a wide range of specialist consultations, particularly for patients in the southwest region and Nigeria in general. The hospital has a gynaecological oncology unit in its Department of Obstetrics and Gynecology. This unit provides specialized multidisciplinary oncology care in conjunction with clinicians in the Departments of Radiotherapy, Radiodiagnosis, Anatomic and Molecular Pathology, General Surgery, and Urology. The unit also oversees weekly outpatient and cytology clinics and a daily Colposcopy clinic where patients with preinvasive diseases of the cervix are diagnosed, evaluated, and offered the appropriate treatment.

Data collection

The names and hospital numbers of patients with gynaecological cancers managed in the hospital during the period under review were retrieved from the gynaecological, radiotherapy and paediatric ward and clinic registers, and the operating theatre record books. The total number of gynaecological malignancies seen in the hospital during the review period was then extracted. The patients' case notes were retrieved from the medical records department and information on the women's age, parity,

menstrual status and histopathological diagnoses were extracted with the use of a standardized study proforma. Most of the patients had a histological diagnosis of gynaecological cancers while all cases of choriocarcinoma were diagnosed based on their clinical features supported by biochemical testing.

Data analyses

The data were collated and analysed using the SPSS version 23.0 Statistical Package for Windows (IBM Corp., Armonk, NY, United States). Descriptive statistics were computed for all data, and the results were presented with a simple table and charts.

Ethical considerations

Ethical approval for the study was obtained from the hospital's Health Research Ethics Committee (HREC Approval number – ADM/DCST/HREC/APP/2619) before the retrieval of the patients' data. De-identifying codes were assigned to the patients' information for confidentiality.

Results

There was a total of 6247 gynaecological admissions in the hospital during the study period with 902 of these diagnosed and managed for various types of gynaecological cancers. This constitutes a proportion of 14.4% of all gynaecological cases seen. However, only 835 (92.6%) of these women diagnosed with cancers had their detailed records available for analysis. Of these, cervical cancer accounted for the largest proportion of cases seen(61.7%) while the least common was vaginal cancer (0.1%) [Figure 1].

Table 1 shows that the overall mean age of the patients was 52.5 ± 12.4 years with the largest proportions of them being in the age group of 50–59 years (26.9%). A large proportion (35.6%) of the patients had a parity of 5 or more with an overall median parity of 4 (IQR, 1 – 5) while the largest proportion (59.1%) were postmenopausal. As shown in Table 2, the highest mean age was seen in women with vulvar cancer (67.2 ± 0.6 years) while the lowest was seen in those with sarcoma botryoides (12.3±1.01 years). Figure 2 showed a steady annual increase in the number of gynaecological cancer cases in the hospital from 101 in 2013 to 245 in 2018, signifying a percentage increase of 142.6% during the period under review.

Table 1: Sociodemographic/obstetric characteristics of women with gynaecological cancers (n=835)

Characteristics	Frequency, n (%)
Age group (in years)	
..	4 (0.5)
20-29	10 (1.2)
30-39	117 (14.0)
40-49	218 (26.1)
50-59	225 (26.9)
60-69	188 (22.5)
≥70	73 (8.7)
.....	**52.5 ± 12.4 years**
Parity	
0	82 (9.8)
1-2	203 (24.3)
3-4	253 (30.3)
≥5	297 (35.6)
Median parity (IQR)	.. . .
Menstrual status	
Premenarcheal	2 (0.2)
Premenopausal	340 (40.7)
Menopausal	493 (59.1)

*Abbreviations: SD, standard deviation; IQR, interquartile range

Table 2: Mean age distribution of the various gynaecological cancers

Cancer type	Mean age ± SD (in years)
Cervical cancer	54.7 ± 13.3
Choriocarcinoma	29.3 ± 2.1
Endometrial cancer	58.1 ± 3.4
Uterine leiomyosarcoma	66.4 ± 1.6
Ovarian cancer	56.6 ± 4.0
Sarcoma Botryoides	12.3 ± 1.0
Vaginal cancer	46.2 ± 3.7
Vulvar cancer	67.2 ± 0.6

*Abbreviations: SD, standard deviation

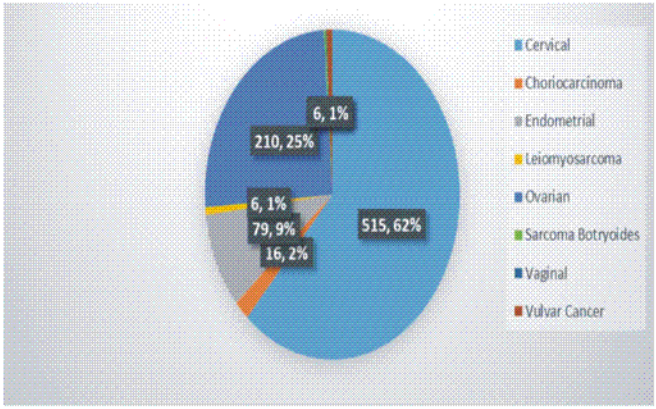
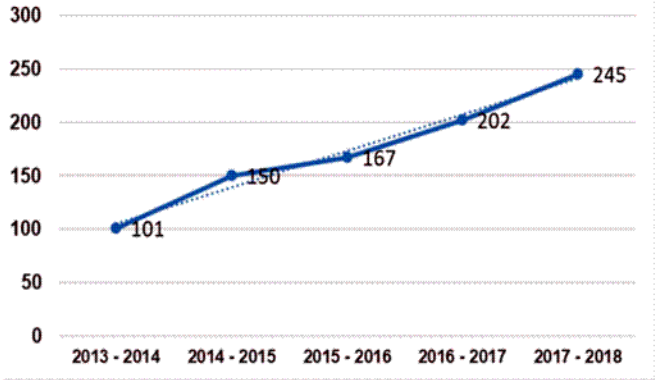


Figure 1: Distribution of gynaecological cancer cases

Figure 2: Yearly trend of gynaecological cancers



Discussion

In this study, gynaecological malignancies account for 14.4%of all gynaecological cases managed in the hospital during the period under review and this is much higher than 4.6% reported in Ilorin,[8] 5.4% in Jos[9]and 8.4% in Abakaliki[10] but almost comparable to the rates of 11.5% reported in Kano[5] and 12.8% in Calabar.[11] The rate is also similar to the reported finding of 12.5% reported by Manzoor et al[12] from the Western region of Pakistan but much higher than the 2.8% reported by Nkyekyer from Ghana.[13] This may be explained by the relatively large number of cases seen at our gynaecological oncology unit which is the largest referral center for patients in Lagos and most parts of Ogun State in South-west Nigeria.

Cervical cancer is the commonest gynaecological malignancy seen in this study (61.7%). It is also the commonest cancer reported from previous studies conducted in different parts of Nigeria[8-11]and other sub-Saharan African(SSA) countries.[13] This similarity is attributed primarily to the current poor access to cervical screening with a subsequent increase in the number of cervical cancer cases due to the absence of a national health programme that should make screening and vaccination available, accessible and affordable. The sub-Saharan African region which carries the greatest burden of cervical cancer has the least resources to tackle this problem.[14] Although the proportion of 61.7% of cervical cancer reported in this study is quite high it is still relatively lower than the 70.5% reported by Kyari et al in Maiduguri[15] and 78% reported by Ugwu et al in Enugu.[16] This may be attributed to the improved efforts of cervical cancer prevention through opportunistic screenings introduced in the last 2 decades in our hospital which have led to a slight reduction in the proportion of cervical cancer cases seen.

Ovariancancer is the second commonest gynaecological malignancy in our study (25.1%). This is comparable to the findings from similar studies conducted in Nigeria[5,9-11,15,17,18]and Ghana[13]but a study conducted in Pakistan by Jamal et al[19] reported that ovarian cancer, with a proportion of 42.4%,was the most frequently encountered gynaecological malignancy followed by cervical cancer. This is in sharp contrast to the findings from most developing countries where cervical cancer is the most commonly seen. This suggests that countries with better organised and efficient cervical cancer screening programmes now have less number of cervical cancer relative to the ovarian cancer cases which conversely has no recommended screening strategies for the low-risk population of women at the moment.

In this study, endometrial carcinoma accounts for 9.5% of cases seen and thus ranked as the third commonest gynaecological cancer reported during the review period. This is consistent with the findings in other studies from SSA[5,9,10,13,20] but different from the findings by Ibrahim et al in Ilorin[8] and Sanni et al in Jos[9] where the proportion of choriocarcinoma seems to be slightly higher than that of endometrial cancer. This may be attributed to the metropolitan nature of Lagos and some other urban cities in Nigeria that are now characterised by increased intake of westernised diet and its consequent tendencies for obesity,[20] one of the major risk factors for endometrial cancer, among the populace. As expected, other gynaecological malignancies such as vaginal and vulvar carcinomas, uterine leiomyosarcoma and sarcoma botryoides are generally rarely seen as reported in this study and various other studies conducted within and outside Nigeria.[9-13]

The mean age of patients with cervical cancer in the study was 52.5±12.4 years and this is comparable to the 50 to 52years reported in similar studies conducted in Ghana[13]and Nigeria[11]but much higher than the 43.1±7.5years reported by Okunade et al in Lagos[21] and Yakasai et al in Kano[5]respectively. The mean age of 56.6±4.0 years

reported in patients with ovarian cancer in this study is higher than that of patients with cervical cancer and this is consistent with reports from previous studies[15,22] but lower than the 45.7 years reported by Okunade et al in a retrospective review conducted in the same setting in 2016.[23]The mean age of patients with endometrial cancer in this study (58.1±3.4 years) is also at par with that of cervical and ovarian cancers but only slightly lower than the 62.2 years reported by Okunowo et al in the same setting.[20]The reason for this is that cervical, ovarian and endometrial cancers are diseases most commonly found in women of older age group and the increased life expectancy among women in most countries may probably account for the increasing number of women having these conditions at predominantly more advanced age group. Conversely, as expected choriocarcinoma and sarcoma botryoides with mean ages of 29.3±2.1 years and 12.3±1.0 years respectively are seen mostly in younger women and girls as the case may be.The poor medical record-keeping system currently being used in our hospital contributed to the high number of missed data in this study with a significant impact on the accuracy of the data collected for analyses.

Conclusions

The number of patients with gynaecological cancers presenting to this hospital is on a steady increase. Cervical cancer is the most common female genital tract malignancy in our study, followed by ovarian and endometrial cancers in that order. These commonly encountered cancers are associated with advanced age, increased parity and postmenopausal status. Improved health education and public enlightenment on the importance of routine screening and the need for a consistent government policy on the institution of an effective organised screening programme for cervical cancer. In addition, the identification and screening of women at risk of ovarian and endometrial cancers will lead to early diagnosis and treatment which will, in turn, reduce the morbidity and mortality from these much-dreaded diseases.

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Conflicts of interest

The authors report no conflicts of interest.

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