ORIGINAL ARTICLE

Gynecological malignancies in Aminu Kano Teaching Hospital Kano: A 3 year review

IA Yakasai, EA Ugwa, J Otubu

Department of Obstetrics and Gynecology, Aminu Kano Teaching Hospital, Kano and Center for Reproductive Health Research, Abuja, Nigeria

Abstract

Objective: To study the pattern of gynecological malignancies in Aminu Kano Teaching Hospital.

Materials and Methods: This was a retrospective observational study carried out in the Gynecology Department of Aminu Kano Teaching Hospital (AKTH), Kano, Nigeria between October 2008 and September 2011. Case notes of all patients seen with gynecological cancers were studied to determine the pattern, age and parity distribution.

Results: A total of 2339 women were seen during the study period, while 249 were found to have gynecological malignancy. Therefore the proportion of gynecological malignancies was 10.7%. Out of the 249 patients with gynecological malignancies, most (48.6%) had cervical cancer, followed by ovarian cancer (30.5%), endometrial cancer (11.25%) and the least was choriocarcinoma (9.24%). The mean age for cervical carcinoma patients (46.25 ± 4.99 years) was higher than that of choriocarcinoma (29 ± 14.5 years) but lower than ovarian (57 ± 4.5years) and endometrial (62.4 ± 8.3 years) cancers. However, the mean parity for cervical cancer (7.0 ± 3) was higher than those of ovarian cancer (3 ± 3), choriocarcinoma (3.5 ± 4) and endometrial cancer (4 ± 3). The mean age at menarche for women with cervical cancer (14.5 ± 0.71 years) was lower than for those with choriocarcinoma (15 ± 0 years), ovarian (15.5 ± 2.1 years) and endometrial (16 ± 0 years) cancers. There was one case of vulva cancer and none with vaginal cancer.

Conclusion: Cervical cancer was the most frequent malignant tumor and the least was choriocarcinoma. Estimates of this important public health problem need to be addressed in various regions of Nigeria.

Key words: Cancers, gynecological, nigeria, north-west, pattern, tertiary hospital

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Introduction

Gynecological cancers continue to be important health problems worldwide.[1] Most malignant female genital tumors have a worldwide distribution, but the distribution and frequency vary from one region to the other. The proportion of cancers in the female which are of genital tract origin range from as high as 31.6% to 35.0% in sub-Saharan Africa and as low as 12.7% to 13.4% in North America [2] and other developed nations where health-seeking and organized screenings methods have greatly improved.[3] Cervical cancer is the most common pelvic malignancy among women worldwide, for which screening modality is widely accepted.[3,4]

Address for correspondence:
Dr. Ibrahim Yakasai, Department of Obstetrics and Gynecology, Aminu Kano Teaching Hospital, Kano PMB 3452, Kano, Nigeria.
E-mail: ibrahimyakasai57@hotmail.com

Cervical cancer is the commonest cause of gynecological cancers in sub-Saharan Africa[4] and second only to breast cancer as cause of cancer death in women.[5] Most cases of cervical cancers present late in Africa[6] when palliative instead of curative measures are taken thereby making mean survival low and death from cervical cancer inevitable. In developed countries endometrial carcinoma is the commonest gynecological cancer and reported to be predominantly a disease of ageing, postmenopausal

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women, the peak incidence being in the 58-60 years group.[7]

The second common female genital cancers were ovarian tumors which accounted for 16.3% of the cancers in a study done in Ibadan, Nigeria.[8] Carcinoma of the ovary is now the most common malignant tumor found in gynecology in the United Kingdom.[9]

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 and choriocarcinoma which are seen commonly in premenopausal or peri-menopausal women.[7] Women of high parity have relatively low risk of developing endometrial cancer and it is known that pregnancy is protective against ovarian cancer while multi parity is associated with increased risk of development of cervical carcinoma.[10]

Despite the high mortality and morbidity of some of these genital tract cancers in our environment, there is a problem of lack of estimates especially in the northern part of the country. This study therefore aims to determine the pattern and relative frequencies of gynecological cancers, age, parity and histological type in Kano Northern Nigeria.

Materials and Methods

The study covered a period of 3 years from October 2008 to September 2011. The case records of all patients admitted into the gynecological ward with suspected gynecological cancer were retrieved from the medical records department. The Information on clinical, surgical and histopathological diagnosis was collated using a proforma. In addition the type of cancer, age and parity were noted. Most of the patients had histological diagnosis of gynecological cancers. The cases of choriocarcinoma were diagnosed on clinical features and confirmed by biochemical tests. The data obtained were analyzed using SPSS (statistical package for social sciences) statistical software. Absolute numbers and simple percentages were used to describe categorical variables. Similarly, quantitative variables were described using measures of central tendency (mean, median) and measures of dispersion (range, standard deviation) as appropriate. Statistical significance of differences between means was determined using ANOVA (analysis of variance). Significant association between age, parity and gynecological cancers were tested using Chi-square test and $P < 0.05$ was considered statistically significant.

Results

During the study period, 2339 women were admitted into the gynecological ward. Two hundred and seventy had gynecological cancers from the admission records. This gave the proportion of gynecological cancer of 11.5%. Two hundred and fifty eight case notes were retrieved giving a retrieval rate of 95.6% and 249 of these retrieved case notes had complete records including histological diagnoses. Percentage of case notes containing all information was 96.5%.

Age and parity distribution of patients with gynecological cancers [Table 1]: The mean age of women who had cervical carcinoma (46.25 ± 4.99 years) was higher than that of those with choriocarcinoma (29 ± 14.5 years), but this was not statistically significant ($P = 0.19$). The mean age of women who had cervical carcinoma (46.25 ± 4.99 years) was lower than those with ovarian (57 ± 4.5 years) and endometrial (62.4 ± 8.3 years) cancers. None of the women aged 15-34years had cervical, ovarian and endometrial cancers and none of those aged 55-74 years had choriocarcinoma. Forty eight percent of women with choriocarcinoma were less than 34 years old and below. The mean parity for patients with cervical cancer (7.0 ± 3) was higher than those of ovarian cancer (3 ± 3), choriocarcinoma (3.5 ± 4) and endometrial cancer (4 ± 3). This was statistically significant ($P = 0.002$).

Frequency distribution of patients with gynecological cancers in the study population [Table 2]: The commonest gynecological cancer was cervical carcinoma, which comprised of 48.6% of the cases and is followed by ovarian cancer comprising of 30.5% of the cases. Choriocarcinoma and Endometrial cancer are not as common.

Distribution of the histological types of gynecological cancers in the study population [Table 3]: Among patients with histological diagnosis of cervical cancer, most (87.5%) was squamous cell carcinoma type, followed by adenosquamous (9%) and lastly adenocarcinoma (3.5%). For those with ovarian cancer, most (36%) was due to serous cystadenocarcinoma (36%), followed by mucinous cystadenocarcinoma (24%), granulosa-cell tumor (20.5%), sex cord stromal tumor (15%) and the least was clear cell tumor (4.5%). Endometrial cancer was predominantly adenocarcinoma. There were no cases of both vaginal and vulvar cancers during the study period.

Trend of prevalence rate of gynecological cancers in the study population Figure 1: Showed the rising prevalence rate of cervical cancer (0.056 ± 0.2), falling rate of ovarian cancer (0.037 ± 0.1) and unchanged rate of endometrial cancer (0.012 ± 0) and choriocarcinoma (0.011 ± 0). Chi-square, $X2 = 4.400$, $P = 0.350$, $P < 0.01$ is significant-Chi-square for trend.

Discussion

Gynecological cancers formed 11.5% of gynecological admissions. This is high when compared with 2.8% reported by Nkyekyer from Ghana 1 and 4.18-4.7% reported by Briggs

Table 1: Age and parity distribution of gynecological cancers

Parameters	Cervical cancer	Ovarian cancer	Endometrial cancer	Choriocarcinoma
Age				
15-34	0	0	0	11
35-54	108	25	4	12
55-74	13	51	24	0
Mean Age	46.25±4.99	57±4.5	62.4±8.3	29±14.5
Parity				
0	0	11	0	0
1-5	14	46	21	12
>5	67	11	7	11
Mean Parity	7.0±3	3±3	4±3	3.5±4

Table 2: Distribution of the histological types of gynecological cancers in the study population

Types	Frequency	Percentage
Cervical Cancer		
Squamous carcinoma	106	87.5
Adenocarcinoma	4	3.5
Adenosquamous	11	9
Ovarian cancer		
Serous cystadenocarcinoma	27	36
Mucinous cystadenocarcinoma	18	24
Clear cell carcinoma	4	4.5
Granulosa-cell tumors	16	20.5
Sex cord stromal tumor	11	15.0
Endometrial cancer		
Adenocarcinoma	28	100
Choriocarcinoma	23	-
Vaginal cancer	Nil	-
Vulvar cancer	Nil	-

Table 3: Frequency distribution of gynecological cancers (*n*=249)

Cancer type	Frequency	Percentage (%)
Cervical cancer	121	48.6
Ovarian cancer	76	30.5
Endometrial cancer	28	11.25
Choriocarcinoma	23	9.24

Table 4: Relative frequencies of gynecological cancers*

Cancer type	Frequency	Percentage (%)
Cervical cancer	288	57.83
Ovarian cancer	126	25.30
Endometrial cancer	37	7.43
Choriocarcinoma	34	6.83
Vulva	11	2.21
Vagina	1	0.20
Leiomyosarcoma	1	0.20
Total	498	100

*Adapted from Nkyekyer K, 2000

and Katchy from Portharcourt Nigeria[11] and Emembolu and Ekwempu from Zaria Nigeria.[12]

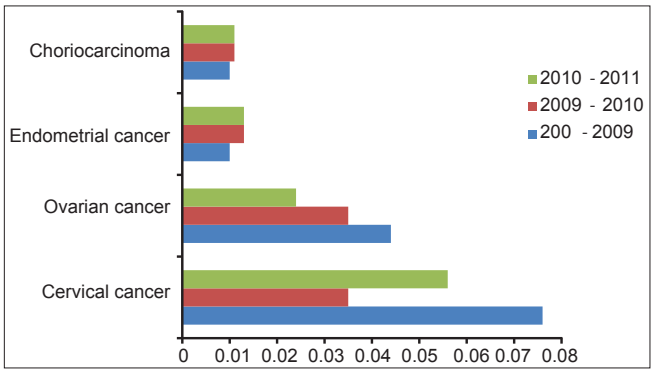

Figure 1: Trend of the prevalence rate of the gynecological cancers in the study population ($X^2 = 4.400$, $P = 0.350$, $P < 0.01$ is significant-Chi-square for trend)

The pattern of gynecological malignancies is different in various geographical areas.18,19 Cervical cancer is one of the leading cancers in women worldwide, second only to breast cancer; 80% of new cases occur in developing countries.[5] Cervical cancer being the commonest gynecological cancer [Table 4] is consistent with what was reported in Ghana[1] and other Northern part of Nigeria.[11] The proportion of cervical cancer (48.6%), in this study is however, low when compared with 57.8% reported in Ghana,[1] 70.5% reported in Maiduguri by Kyari *et al*.[13] and 78% reported by Ugwu *et al*. in Enugu.[14] Improved efforts at cervical screening and early detection of cervical dysplasia in the last 10-15 years in our center have led to this reduction in the proportion of gynecological malignancies due to cervical cancer.

The position of ovarian cancer as the second commonest gynecological cancer [Table 4] is similar to what has been reported from Maiduguri by Kyari *et al*.,[13] Zaria,[12] Port Harcourt[11] and Ghana[1] (both in Nigeria), but with a higher proportion of 30.5% compare to the other series. The higher proportion of ovarian cancer in our studies compared to other study is probably due to awareness of various gynecological conditions created by Muslim Medical Women Association of Kano State, which is making our women present at our Teaching Hospital with such conditions. Besides, other peripheral hospitals have also improved in their referral systems, whereby

cancers are now being referred to our Teaching Hospital for specialist care.

In a study by Jamal *et al*. in Pakistan,[15] ovarian tumors were the most frequent, comprising 42.4% of all gynecological malignancies and cervical cancer, which is the most frequent in most studies in developing countries, was the second most frequent.

Endometrial carcinoma is slightly more common than choriocarcinoma in this study and this agrees with the findings of Nkyekyer in Ghana[1] and Kyari *et al*. in Maiduguri[13] but in contrast to what was reported in another study.[12]

The mean age at presentation of cervical cancer was 46.25 ± 4.99 years and this is comparable with 42 and 47 years but differs from 50.3 and 52 years reported elsewhere.[1,15-17] The mean parity of 7 ± 3 is however, higher than those observed in other similar studies.[1,16,17] The higher mean parity at presentation of women with cervical cancer compared to those with ovarian cancer is consistent with reports of some studies[13,17] but contrary to these studies, the mean age for cervical cancer patients was lower than for patients with ovarian and endometrial cancers in our study. The reason for this is that women in Kano start their marital/reproductive life earlier (mostly at 14-15 years) when compared with other women, they are usually of high parity, they are of poor socioeconomic status, they have a short life expectancy and are more likely to die young from complications of pregnancy. Ovarian and endometrial cancers are diseases that are quite common at such an advanced age which most of our women do not attain. Therefore women with ovarian and endometrial cancer are older and of lower parity than those with cervical cancer. On the other hand, choriocarcinoma in Northern Nigeria is a disease of relatively younger women. This is not surprising since, being a disease associated with pregnancy; it is more likely to occur in actively reproductive women.

The histologic types of gynecological cancers reported in our study is similar to that reported in another study.[15]

This study also reported a rising prevalence of cervical cancer. According to the world cancer report, cervical cancer is the most common cancer of the female reproductive tract. About 470000 new cases are diagnosed each year.[5] This agrees with previous findings that the incidence of cervical cancer is higher in developing countries and has been declining in the last three or four decades in most developed countries, predominantly due to effective cervical screening programs.[9,18]

Conclusion

Cervical carcinoma was the commonest gynecological cancer in North-west Nigeria and effort should be made to address estimates of these important public health problems in various regions of the country.

Recommendation

Strategies for screening of the general population and high risk group will lead to early diagnosis and drastically reduce morbidity and mortality from gynecological cancers, particularly cervical cancer.

Ethical clearance

The ethical committee of the hospital gave ethical clearance before the commencement of the study.

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