Gynaecological Malignancies Seen in a Tertiary Health Facility in Kano, Northern Nigeria

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Abstract

Objective: To establish the relative frequency, age distribution and histological patterns of the various gynaecological malignancies seen in Aminu Kano Teaching Hospital over a 5-year period.

Methodology: Data related to socio-demographic variables, clinical and histopathology findings of patients with genital malignancies seen in the hospital between 1997 and 2001 were obtained. The one-way analysis of variance (ANOVA) was used to analyse the differences in the age distribution of the different histological types of malignancies.

Results: A total of 152 cases were recorded. Cervical cancer, ovarian cancer and cancer of the corpus uteri constituted 90 (59.2%), 41 (27.0%) and 18 (11.8%) of the cases respectively, while cancer of the vulva 3 patients (2%) and vagina 1 patient (0.7%) were rarely seen. The ovarian cancers were predominantly of the epithelial type, with serous cystadenocarcinoma, mucinous cystadenocarcinoma and clear cell carcinoma, constituting 14 (35.5%), 9 (22.5%) and 1 (2.5%) of patients respectively. Granulosa-cell tumours accounted for 9 (22.5%) and sex cord stromal tumour 7 (17.5%) of patients. There was a statistically significant difference between the mean ages of patients with different gynaecological malignancies ($F = 8.55$; $p < 0,0002$) and between the mean ages of patients with epithelial cell tumours compared to those with germ cell tumours of the ovaries ($t = 4.11, p < 0.003$).

Conclusions: The present study corroborates reports from other regions of Nigeria and developing countries, which show squamous cell cervical cancer as the most common gynaecological malignancy.

Key Words: Genital Cancer, Malignancy, Frequency, Histology [Trop J Obstet Gynaecol, 2003, 20: 105-108]

Introduction

Cancer is a worldwide public health problem and the malignancies involving the female genital organs are major causes of morbidity and mortality. Worldwide, gynaecological malignancies (excluding breast cancer) account for about 10% of new cancer cases and 12% of cancer deaths in women [1]. In Nigeria, gynaecological malignancies account for 19.3% of female cancers [2]. Of these, squamous cell carcinoma of the cervix is the commonest cancer in Nigerian women [3,4]. This conforms to what is found in most developing countries, where invasive epidermoid cancer of the cervix has consistently been the most common malignant tumour of the female genital tract [5]. However in developed countries such as England and Wales, cancer of the cervix has dropped to the 5th position among the common cancers seen in women, being less common than ovarian cancers [6]. This is mainly due to the fact that in many developed countries there are cervical screening programs, which while varying in their degree of organisation and intensity, help to reduce the incidence of and mortality from cervical cancer by early detection and treatment of "premalignant"epithelial abnormalities of the cervix.

Cancer of the ovary is now one of the commonest malignancies in women in industrialised countries. About 4200 new cases of ovarian cancer in England and Wales [9] and 21,000 in the USA [10] are diagnosed each year. Worldwide statistics show that the international variation is considerable, the incidence in the highest risk countries being 5 times greater than that in the lowest risk countries [11]. In Nigeria, ovarian cancer ranks second to cervical cancer in frequency, excluding trophoblastic and breast cancers, and between them account for virtually all deaths from pelvic cancers [4].

Endometrial carcinoma has become the most common female genital tract malignancy in North America and Northern Europe [7], a situation due, at least in part to the declining incidence of cervical cancer as well as to the ageing nature of the female population. Amongst Nigerian women, endometrial carcinoma and other malignant lesions of the uterine body are less commonly seen than cervical cancer [8].

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There have been very few reports on gynaecological cancers from Northern Nigeria. Therefore the present study was undertaken to establish the relative frequency, age distribution and histological patterns of the various gynaecological malignancies seen at Aminu Kano Teaching Hospital over a 5-year period (1997 – 2001).

Materials and Methods

Data on gynaecological malignancies seen between 1997 and 2001 at the Animu Kano Teaching Hospital, Kano were collated from case notes, theatre records and histopathology records. Data related to socio-demographic variables, clinical diagnosis and histological diagnosis were retrieved. The data were analysed using the SPSS statistical package, version 6 and presented in tabular forms. The independent samples' t test and the one-way analysis of variance (ANOVA) were used to test for statistical significance at the 95% confidence level.

Results

The total number of gynaecological malignancies seen during was 152. The proportion of the different malignancies is shown in Table 1, cervical malignancies being the commonest variant and vaginal malignancies the least common.

Table 1

Sites of Malignant Tumours in the Patients

Tumour Site	Number of Patients	Proportion of all Genital Cancers *(%)*
Cervix	90	59.2
Ovary	40	26.3
Trophoblastic	11	7.2
Corpus Uteri	7	4.6
Vulva	3	2.0
Vagina	1	0.7
Total	***152***	***100***

Among the 90 patients with cervical cancer, about 6% were under the age of 30 years; nearly 25% were aged 30 to 39 years; 35.6% were in the 40 to 49 year age group, 22% in the 50-59 year age group and 11% aged 60 years or more. Thus, about two-thirds of the patients with cervical cancer were less than 50 years of age.

Out of the 90 patients with cervical cancer, only 4 (4.4%) had adenocarcinoma of the cervix, the remaining 95.6% having squamous cell carcinoma.

The frequency distribution of the different histological types of ovarian tumour seen is shown in Table 2,

Table 2

Histological Pattern of Ovarian Malignancies Seen in the Patients

Histological Type	Number of Women *(%)*	
Epithelial Tumours		
Serous Cystadenocarcinoma	14 (35.0)	
Mucinous Cystadenocarcinoma	9 (22.5)	
Clear-Cell Tumour	1 (2.5)	
Sub-Total		***24 (60.0)***
Germ Cell Tumours		
York Sac Tumour	4 (10.0)	
Dysgerminoma	4 (10.0)	
Metastatic Choriocarcinoma	1 (2.5)	
Sub-Total		***9 (22.5)***
Sex Cord Stromal Tumour		
Granulosa Cell Tumour	5 (12.5)	
Arrhenoblastoma	2 (5.0)	
Sub-Total		***7 (17.5)***
Total	40 (100)	***40 (100)***

Among the 7 patients with malignancies of the corpus uteri, 5 had uterine sarcomas whilst the remainder had adenocarcinoma of the endometrium.

Table 3

Age Distribution of the Patients by Tumour Site

Tumour Site	Number of Patients	Age Range *(years)*	Mean Age *(years)*	s.d.
Cervix	90	20 - 70	43.77	10.67
Ovary	40	12 - 75	35.23	15.93
Trophoblastic	11	20 - 35	25.54	5.99
Corpus Uteri	7	27 - 75	49.14	18.99
Total	148	12 - 75	35.23	15.93

$F = 8.55$, $v_d = 144$, $v_n = 3$, $p < 0.0002$.
Cervical Cancer vs Uterine Corpus Cancer: $t = 1.20$; $p = 0.233$.
Cervical Cancer vs Choriocarcinoma: $t = 5.54$; $p < 0.0001$.
Cervical Cancer vs Ovarian Cancer: $t = 2.27$; $p < 0.02$.

Table 3 shows the different gynaecological malignancies and mean age of patients at diagnosis. There was a significant difference between the mean ages of patients with different gynaecological malignancies ($F = 8.55$; $p < 0.0002$). This is mainly due to the lower mean ages of patients who had choriocarcinoma compared to those with cervical cancer ($t = 5.54$; $p < 0.0001$)

The proportion of patients with the different histological types of ovarian malignancies seen during the period and the mean ages of these groups of patients is shown in Table 4. The women with germ cell tumours had a lower mean age than those with epithelial or stromal cell tumours, a difference that was statistically significant.

Table 4

Age Distribution of the Patients by Tumour Site

Ovarian Tumour Type	Number of Patients	Age Range *(years)*	Mean Age *(years)*	s.d.
Epithelial Cell	24	27 – 75	43.79	11.39
Germ Cell	9	12 – 27	24.33	13.95
Stromal Cell	7	14 – 75	37.57	22.44
Total	40	12 - 75	35.23	12.45

$F = 6.10$, $v_d = 37$, $v_n = 2$, $p = 0.005$
Epithelial Cell vs Germ Cell Tumours: $t = 4.11$; $p < 0.003$
Epithelial Cell vs Stromal Cell Tumours: $t = 1.006$; $p = 0.323$

Discussion

Although carcinoma of the cervix is said to be a preventable disease, it is the commonest site of cancer in African women [12]. Carcinoma of the cervix accounts for about 25% [12] and 35% [13] of female cancers diagnosed in Jos (North-Central Nigeria) and Zimbabwe respectively. In this review cervical cancer accounted for 56.2% of all female genital malignancies, which does not differ from the 58.1% reported from Western Nigeria [2]. The findings from this study are in keeping with previous reports that squamous cell carcinoma is by far the commonest tumour of the cervix, accounting for 85-90% of primary cervical neoplasia, and the age distribution of patients with cervical cancer seen in this study does not differ significantly from the pattern observed in other studies [2, 12, 14].

Vaginal tumours are generally rare as demonstrated in this study, where they constituted less than 1% of the tumours found, and 85-90% of vaginal cancers that do occur are squamous cell carcinomas [14]. The regional cancer registry in the West Midland region of England reported 1.5% of gynaecological cancer to be due to vaginal tumours [15]. Although trophoblastic tumours are much more common in some parts of South East Asia, these tumours also occur with relatively high frequency in Nigeria. This study shows that up to 7.2% of the gynaecological cancers are as a result of choriocarcinoma. Gestational trophoblastic tumours are seen commonly in young women, particularly those in the reproductive age group, hence the significant difference between the mean ages of patients with cervical cancer as compared to choriocarcinoma depicted in this review.

It has long been recognised that ovarian cancer is more common in the industrialised than in the non-industrialised world. The highest reported incidence rates are from Sweden, Norway and other affluent countries, whereas the lowest are from Japan and other Asian countries [11]. Ovarian cancer is the second commonest malignancy, accounting for 26.3% of gynaecological malignancies in this group of patients, whereas in South-western Nigeria, ovarian cancers constituted only 15% of all gynaecological malignancies [2].

One hypothesis developed to explain the epidemiology of ovarian cancer is a linkage between the number of ovulations and ovarian cancer, the 'incessant ovulation' hypothesis [16]. The observed decreased risk with increasing parity, breastfeeding and use of oral contraceptive pills, all of which suppress ovulation, fits with this hypothesis. It may also explain the low incidence of ovarian cancer in our women because of high parity and long periods of breastfeeding. The incidence and mortality rates from ovarian cancer increase rapidly with age until the 6th decade of life, after which they begin to plateau [17]. Similar age curves have been described for all the main histological types of epithelial ovarian tumours and also for sex cord tumours [18]. Germ-cell malignancies however, have a distinct age pattern with sharp peak at 15-19 years of age, dysgerminoma and teratoma contributing equally to this, and a later broader peak at ages 65-69, mainly due to teratomata [19]. Our findings conform to this pattern in that all our patients with germ cell tumours were between the ages of 12 and 27 years. This contributed to the highly significant differences in the ages of those who had germ cell tumours compared to those with stromal and epithelial cell tumours.

Endometrial cancer and other malignant lesions of the uterine body are less commonly seen, a fact that may be related to the level of socio-economic development in the society. In epidemiological terms, it is widely accepted that cancer of the corpus uteri is a disease of affluent societies, with incidence rates closely correlating with a nation's gross domestic product [20]. Our present study corroborates reports from other regions of Nigeria and other developing countries that squamous cell cancer of the cervix is the commonest gynaecological cancer. We therefore advocate the incorporation of cervical cancer screening into existing Reproductive Health programs.

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