

# Malignant Tumours of the Corpus Uteri in Nigerian Women

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## ABSTRACT

A review of cases of malignant tumours of the corpus uteri in Nigerian women seen over a 38-year period revealed that this group of tumours constitute 4.9 per cent of all female genital malignancies. The ratio of corpus to cervical tumours increased from 1:15.2 during the first decade of the period of study to 1:9.2 during the third, and to 1:10.9 in the fourth decade. Carcinomas accounted for 70.6 per cent of all corpus malignancies, pure sarcomas for 20.4 per cent and mixed mesodermal tumours (MMT) for 6.9 per cent. At the time of the diagnosis, the mean age of patients with pure sarcomas was significantly lower than those of patients with carcinoma or MMT, and the mean age of patients with squamous cell carcinoma was lower than those of patients with adenocarcinoma. Clinicians in this sub-region should be alert to the presentation of symptoms of these tumours, particularly in perimenopausal and menopausal women, in view of their rising relative frequency in the community. (*Afr J Reprod Health* 1999; 3[1]:81-87)

## RÉSUMÉ

Tumeurs Malignes du Corpus Uteri chez les Femmes Nigérianes. Un examen sur une période de 38 ans de cas de tumeurs malignes du corpus uteri chez des femmes nigérianes a révélé que ce groupe de tumeurs constitue 4.9% de toutes les malignités des parties génitales. Le ratio entre corpus et tumeurs cervicales a augmenté de 1: 15.2 au cours de la première décennie de la période de l'étude à 1 :9.2 durant la troisième décennie et à 1 :10.9 durant la quatrième décennie. Les carcinomes représentaient 70.6% de tous les corpus malins, les sarcomas purs, 20.4% et les tumeurs mésodermales mixtes (TMM), 6.9%. Au moment du diagnostic, l'âge moyen des patientes atteintes de sarcomas purs était significativement inférieur à celui des patientes souffrant de carcinomes ou de TMM et l'âge moyen des patientes ayant des cellules de carcinoma était inférieur à celui des patientes ayant de l'adenocarcinome. Au su de la prévalance de ces tumeurs au sein de la communauté, les cliniciens de la sous-région étudiée devraient être vigilants afin d'en reconnaître les symptômes, particulièrement lorsqu'ils se présentent chez les femmes en périménopause ou en ménopause. (*Rev Afr Santé Reprod* 1999; 3[1]81-87)

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KEY WORDS: *Corpus uteri, tumours, carcinoma, sarcoma, ration frequency*

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## Introduction

Invasive epidermoid carcinoma of the cervix uteri has consistently been the most common malignant tumour of the female genital tract in most countries.<sup>1</sup> The pattern observed in Nigeria conforms to this norm in that squamous cell carcinoma of the cervix is the commonest epithelial tumour in women.<sup>2,3</sup> Endometrial carcinoma and other malignant lesions of the uterine body are less commonly seen.<sup>2,3,4</sup> This may be related to the level of socio-economic development in the society since, in epidemiological terms, it is widely accepted that cancer of the corpus uteri is a disease of affluent societies with incidence rates that correlate closely with a nation's gross domestic product.<sup>5</sup>

There have been very few reports on the problem of malignancies of the uterine body in Nigerian women. In a previous survey of uterine cancers in Western Nigeria,<sup>4</sup> a ratio frequency of 1% was recorded for corpus cancers relative to other malignancies seen in the female population. There was a further report on eighteen patients managed for endometrial carcinoma in the gynaecological unit of a major Nigerian teaching hospital.<sup>6</sup> The relative rarity of malignancies of the corpus uteri in Nigerian women presumably accounts for the paucity of information about the occurrence of these lesions among them. The present study was undertaken to assess the frequency of malignancies of the body of the uterus relative to other genital malignancies seen in Nigerian women, over a 38-year period, to determine the histological types of lesions seen and the age groups in which the lesions are most commonly diagnosed.

## Materials and Methods

A cancer registry has been maintained for the registration of all malignant tumours diag-

nosed in our hospital since 1960. A list of all histological confirmed cases of female genital malignancies between 1960 and 1997 was obtained from the registry. The number of patients with cancers of the different parts of the female genital tract were obtained. The clinical and pathological records of patients with malignant lesions of the corpus uteri were retrieved and data pertaining to their age and the histologic details of their tumours were obtained for analysis. Non-Nigerians and patients whose records were incomplete were excluded from this part of the analysis.

The differences in the age distribution of the patients with the various histological types of tumours were analysed using the one-way analysis of variance (ANOVA). The Bonferroni t-test was used as a post-hoc multiple-comparison procedure to isolate the differences observed with ANOVA. Limits of significance were set at  $p < 0.05$ .

## Results

The total number of malignancies diagnosed in female patients during the period reviewed was 32,973. Gynaecological malignancies accounted for 6,368 (19.3%) of these lesions. The relative ratio frequencies (RRF) of the various gynaecological malignancies diagnosed during the period are shown in Table 1. The ratio of corpus to cervical uterine tumours diagnosed during the period, decade by decade, is shown in Table 2. There was a steady rise in this ratio during the first three decades of the period under review and a slight decrease in the fourth. Thirty-two patients who were non-Nigerians and 14 Nigerian patients whose ages could not be ascertained were excluded from further analysis, leaving 289 patients for the remainder of the analysis.

**Table 1: Relative Ratio Frequency (RRF) of female genital tract malignancies in Ibadan, 1960-1997**

Tumour Site	Number of Patients	RRF of all Tumours in Females	Proportion of Female Genital Tumours
Cervix uteri	3696	11.21%	58.1%
Gestational trophoblastic tumours	1180	3.58%	18.5%
Ovary	957	2.90%	15.0%
Corpus uteri	335	1.02%	5.3%
Vulva	102	0.31%	1.6%
Vagina	84	0.25%	1.3%
Oviduct	14	0.04%	0.2%
Total	6368	19.31%	100%

**Table 2: Ratio of the frequency corpus relative to cervix uteri tumours in Ibadan, 1960-1997**

Decade	Number of Corpus Tumours	Number of Cervix Tumours	Ratio
1960-1969	59	897	1: 15.2
1970-1979	95	995	1: 10.5
1980-1989	104	961	1: 9.2
1990-1997	77	843	1: 10.9
Total	335	3696	1: 11:0

The main histological groups to which the uterine tumours that were diagnosed belonged and the age distribution of the patients affected are shown in Table 3. The overwhelming majority of the tumours were carcinoma of the endometrium. Patients with pure sarcomas are classified separately from those with mixed mesodermal tumours. A one-way ANOVA revealed that there was a significant difference between the

mean ages of patients in the various groups ( $F = 12.2$ ;  $p < 0.001$ ). The Bonferroni multiple comparison procedure revealed that this observed difference is due to a lower mean age of patients who had pure sarcoma relative to those patients who had carcinoma ( $t = 6.73$ ;  $p < 0.0001$ ), and those patients with a diagnosis of mixed mesodermal tumours ( $t = 3.49$ ;  $p < 0.001$ ).

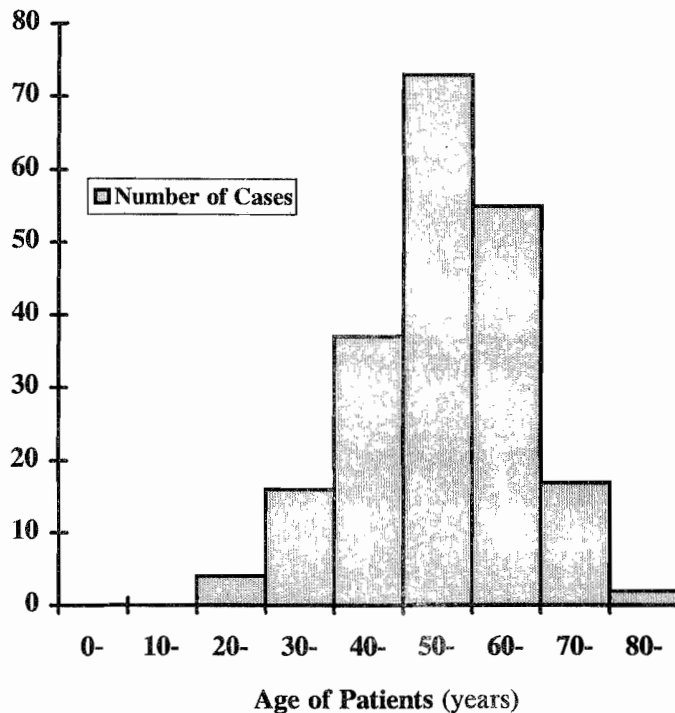


Figure 1: Age distribution of patients with endometrial carcinoma in Ibadan. (1960-1997)

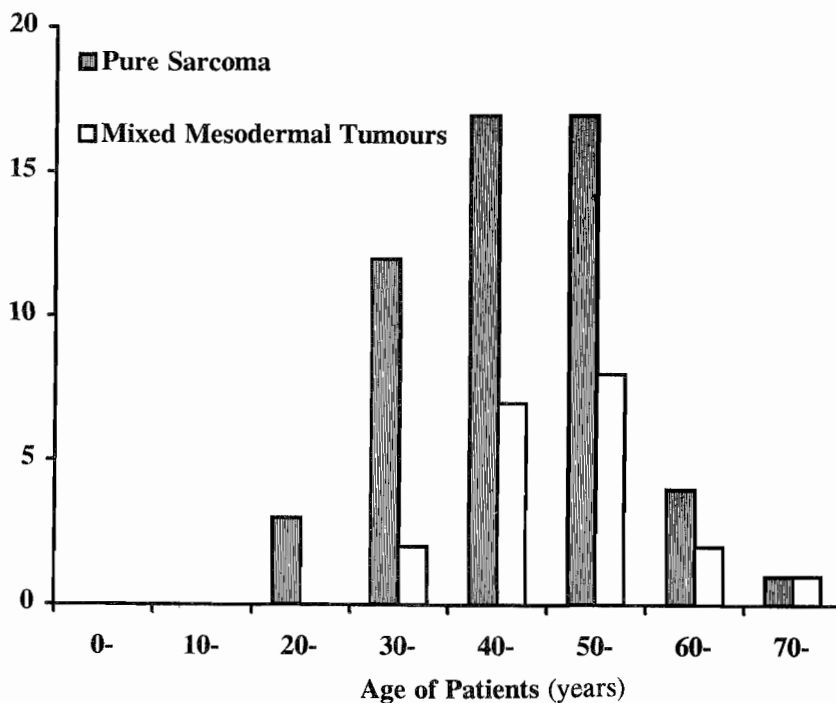


Figure 2: Age distribution of patients with uterine sarcoma in Ibadan. (1960-1997)

**Table 3: Histological types of uterine corpus tumours in Nigerians and age at time of diagnosis**

Tumour Type	Number of Patients	Age Range (Years)	Mean Age (Years)	s.d.*
Carcinoma	204 (70.6%)	24 - 80	55.2	11.2
Sarcoma	59 (20.4%)	20 - 62	45.5	10.8
Mixed mesodermal tumours (MMT)	20 (6.9%)	38 - 71	54.3	8.7
Anaplastic tumours	6 (2.1%)	38 - 70	51.0	7.9
Total	289 (100%)	20 - 80	53.1	10.9

\* s. d. — Standard deviation

F = 12.2, vd = 285, vn = 3, p < 0.001

*Post-Hoc Tests*

Carcinoma vs Sarcoma: t = 6.73; p < 0.001

MMT vs Sarcoma: t = 3.49; p < 0.001

Anaplastic vs Sarcoma: t = 1.32; p = 0.18

Histograms showing the age distribution of the patients with carcinoma and those with pure sarcoma and MMT are shown in Figures 1 and 2. More than 90% of patients with carcinoma were over the age of 40 years with a peak incidence in the sixth decade of life. Patients with pure sarcoma had a less pronounced peak incidence spread over the fifth and sixth decades of life and more than 25% of them were aged less than 40 years.

The proportion of patients with the different histological types of endometrial carcinoma seen during the period and the mean age of these groups of patients are shown in Table 4. ANOVA revealed a significant difference between the groups (F = 3.3 p < 0.05). This observed difference was due primarily to the fact that patients with squamous-cell carcinoma were more likely to be younger than those with adenocarcinoma (t = 2.75; p < 0.01).

**Table 4: Histological sub-types of endometrial carcinoma and age at time of diagnosis in Nigerians**

Type	Number of Patients	Age Range (Years)	Mean Age (Years)	s.d.
Adenocarcinoma	182 (89.2%)	24 - 80	55.8	11.2
Squamous cell carcinoma	17 (8.3%)	27 - 70	48.5	11.8
Adenosquamous carcinoma	5 (2.5%)	45 - 65	56.2	8.0
Total	204 (100%)	24 - 80	55.2	11.2

F = 3.3, vd = 201, vn = 2, p < 0.05

*Post-Hoc Tests*

Adenocarcinoma vs Squamous: t = 2.75; p < 0.05

Adenosquamous vs Squamous: t = 1.44; p = 0.14

**Table 5: Age distribution of Nigerian patients with pure sarcoma of the corpus uteri**

Type	Number of Patients	Age Range (Years)	Mean Age (Years)	s.d.
Leiomyosarcoma	34 (57.6%)	20 - 62	44.3	11.4
Endometrial stromal sarcoma	8 (13.6%)	32 - 60	50.4	10.7
Rhabdomyosarcoma	4 ( 6.8%)	35 - 50	43.8	6.3
Fibrosarcoma	4 ( 6.8%)	48 - 71	53.8	6.5
Haemangiopericytoma	3 ( 5.1%)	30 - 50	40.0	10.0
Others	6 (10.1 )	36 - 51	44.5	5.6
Total	59 ( 100%)	20 - 71	45.5	10.8

The proportions of patients with the various sub-classes of pure uterine sarcoma are shown in Table 5. The age range of the patients and the mean ages are also depicted on the table. Meaningful statistical comparison of the various groups of pure sarcoma in terms of age was precluded by the small number of patients in many of the groups.

## Discussion

The ratio frequency of uterine corpus tumours relative to all female malignancies in the study population does not differ significantly from the 1% already recorded here in the past.<sup>4, 7</sup> The ratio of corpus to cervical malignancies, however, increased from approximately 1:15 between 1960 and 1969 to about 1:9 between 1980 and 1989. The latter ratio is even lower than the 1:7.5 reported from southeastern Nigeria.<sup>3</sup> This increase, which was also associated with an absolute increase in the number of uterine corpus malignancies that were diagnosed, may be related to the fact that Nigerian women now live longer. The most recent estimate of the life expectancy of Nigerian women is approximately 54 years, an increase of 17 years within a period of twenty-five years.<sup>8</sup> Patients who develop endometrial tumours, particularly endometrial carcinoma, generally tend to be older than those developing cervical cancer.<sup>4,5</sup> It is, therefore, to be expected that an increase in the number of women that are in

the older age groups in the population will be accompanied by a rise in the frequency of uterine corpus tumours. The dip in the ratio of corporeal tumours relative to cervical tumours that is seen in the fourth quarter of the present study period (i.e., in the 90s) suggests that the life expectancy of Nigerian women may be on the decline again. It is noteworthy that the ratio of uterine corpus tumours to gestational trophoblastic tumours changed from 1:6 in a previous survey<sup>4</sup> to more than 1:4 in the present study. This may be because gestational trophoblastic tumours are also more common in younger women, particularly those in the reproductive age group.

The main histologic types of corpus tumours seen in Nigerian women do not differ significantly from the pattern observed in other parts of the world.<sup>9,10</sup> As expected, carcinomas form the largest group of tumours and adenocarcinomas constitute the bulk of these. Squamous cell carcinomas were more frequently seen in this population than in other previous groups studied, while mixed adenosquamous carcinomas were rare when compared with observations reported from other parts of the world.<sup>10,11,12,13</sup>

The peak age of incidence of endometrial carcinoma in this study conforms with previous observations in this environment and elsewhere.<sup>6,9,14</sup> This value is, however, lower than what had been found among Americans of African descent who have a peak age of incidence

that is higher than that of their Caucasian counterparts.<sup>14</sup> It is interesting to note that while only 11% of Nigerian patients with endometrial carcinoma were aged 60 years or more in a previous survey between 1961 and 1970,<sup>6</sup> approximately 36% of the patients in the present study were aged over 60 years. It seems likely that as the number of older women in the population increases, the peak age of incidence of endometrial carcinoma is likely to follow suit.

Patients with sarcoma were generally younger by about a decade than those with carcinoma. This finding is similar to what has been observed in other populations.<sup>9,15</sup> This difference is probably explained by the contrasting histogenetic mechanisms of both categories of tumour. It is widely accepted that endometrial carcinomas tend to evolve gradually through pre-invasive stages and that they require a prolonged period, often several years, of unopposed oestrogenic activity for their evolution.<sup>5,14,16</sup> Sarcomas have no such limitations and they seem to evolve more rapidly.

Our observations suggest that malignancies of the corpus uteri are being diagnosed more frequently in Nigerian women than hitherto. While a majority of the tumours are carcinomas, sarcomas account for almost a third of them and tend to occur in a younger set of women. Unfortunately, unlike the situation with carcinoma of the cervix where Papanicolaou testing has been shown to decrease both the incidence of and mortality from cancer, there is no such direct and cost-effective screening test for endometrial cancer. However, examination of Pap smears for endocervical glandular abnormalities may help to detect a significant proportion of endometrial adenocarcinoma at an early stage. Clinicians should, therefore, not only be alert to the features of these tumours, but should also encourage regular Pap smears in their patients. Government policy-makers should also promote a national Pap smear screening programme.

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