



Endometrial Cancer in a Tertiary Hospital in South-South, Nigeria: A 5-Year Review

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Authors' contributions

This work was carried out in collaboration among all authors. Author PCO conceptualised and designed the study, managed literature searches, participated in data collation and wrote the first draft of the manuscript. Author DOA wrote the protocol of the study and supervised the entire research. Author LO participated in literature searches and wrote the results. Author OSO participated in literature searches and wrote the discussion. Authors EST and ASA participated in literature searches, and writing of the results and discussion. Authors CN, KMM and OI supervised data collection. Authors MC, GA and BE collected and collated data. All authors read and approved the final manuscript.

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ABSTRACT

Background: Endometrial cancer is the most common gynaecological malignancy in developed countries. In sub-Saharan Africa, it is the third commonest gynaecological cancer after carcinoma of cervix and ovary. It affects women in the peri- and post-menopausal years with peak incidence of 50 – 65 years.

Objective: To determine the prevalence, characteristics, prognostic factors, and outcomes of patients treated for endometrial cancer at the Federal Medical Centre (FMC), Yenagoa, Bayelsa State, Nigeria.

Materials and Methods: It was a descriptive study of all the patients with endometrial cancer managed at the gynaecological unit of the FMC, Yenagoa from 1st January, 2016 to 31st

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December, 2020. Data was extracted from the gynaecological records and entered into a predesigned proforma. All available data were retrospectively analysed using statistical software package and results were then presented in tables and frequencies.

Results: There were 17 cases of endometrial cancer. In the same period, 2,487 gynaecological patients were seen, and the prevalence of endometrial cancer was 0.68%. Endometroid adenocarcinoma was the most common type of the cancer (70.6%), and a majority were diagnosed in Stage 1A of the disease. Sixteen of the women (94.1%) had surgery (laparotomy + hysterectomy) and mean duration of surgery was 116.8±15.5 minutes. One patient had chemotherapy alone.

Conclusion: The overall prognosis as seen in our study is better when compared to cervical and ovarian cancers, not because it is a less malignant tumour, but because presentation to the hospital was earlier, and treatment was also given earlier. Post-menopausal bleeding is much more difficult to ignore than the irregular vaginal bleeding in the younger woman.

Keywords: Endometrial cancer; gynecological malignancy; tertiary hospital; post-menopausal.

1. INTRODUCTION

Endometrial cancer is the most common gynaecological malignancy in developed countries [1]. In sub-Saharan Africa, it is the third commonest gynaecological cancer after carcinoma of cervix and ovary [1]. It affects women in the peri- and post-menopausal years with peak incidence of 50 – 65 years [2]. The median age of patients at the diagnosis of endometrial carcinoma is 63 years [3]. Seventy-five percent of women with endometrial carcinoma are post-menopausal while only 5% occur in women less than 40 years [2,4].

Risk factors for endometrial cancer include post-menopausal status, age, low parity, hypertension, diabetes mellitus, polycystic ovarian syndrome, early menarche, late menopause, oestrogen secreting tumours of the ovary, unopposed oestrogen replacement therapy, tamoxifen use, white race and family history of breast/ovarian/colonic cancer and Lynch II syndrome [2,5,6]. Cigarette smoking, use of combined oral contraceptives and progestogens are thought to decrease the risk [2].

Post-menopausal bleeding is the commonest presenting complaint of patients with endometrial cancer. It is seen in about 90% of women with endometrial cancer and may be the only presenting complaint in some women [7]. However, only 20% of post-menopausal bleeding is due to cancer [8]. Less than 5% of women diagnosed with endometrial cancer are asymptomatic [7]. Other symptoms include purulent vaginal discharge, pelvic pain, dyspareunia, and dysuria. Pelvic pain may result from metastasis to the pelvic side wall or from

pyometra. In advanced disease, there may be history of weight loss and anaemia. In the absence of symptoms, endometrial cancer can be detected incidentally from abnormal Papanicolaou smears, pelvic and computed tomography obtained for an unrelated reason.

Physical examination will seldom suggest the diagnosis of endometrial cancer in the early stages, but uterine enlargement in a postmenopausal woman is suggestive.

Endometrial cancer is a histological diagnosis made based on the results of evaluation of an endometrial biopsy, endometrial curettage, or hysterectomy specimen [9].

The diagnosis of endometrial cancer is suspected from the history of post-menopausal bleeding and ultrasound scan finding of a thickened endometrial stripe of >4mm. The diagnosis is confirmed by the histologic evaluation of endometrial curetting from fractional curettage. Other methods include endometrial biopsy and hysteroscopy.

Endometroid tumours are the most common types of endometrial cancer and tend to have a favourable prognosis and typically present at an early stage with abnormal uterine bleeding. Other histologic types of endometrial carcinoma like serous and clear cell are associated with a poor prognosis [9].

Surgery, which is hysterectomy with bilateral salpingo-oophorectomy is the mainstay of treatment [6]. It can be combined with radiotherapy in cases with myometrial involvement, while radiotherapy alone is reserved for patients who are not fit for surgery.

In advanced disease with metastasis, surgery is usually combined with adjuvant chemotherapy with cytotoxic drugs or hormonal therapy with progestogens [10]. Women seek help early, because endometrial cancer usually presents with vaginal bleeding. This results in early diagnosis and good prognosis.

The prognostic factors include tumour stage, patient's age, race and histologic type, with adenocarcinoma having the best prognosis. Others include the tumour grade and presence of hormone receptors [6].

Long term follow-up of patients who were treated for endometrial carcinoma is an important aspect of management because of the risk of recurrence. Approximately 10% of recurrences occur beyond 5 years [6].

Endometrial carcinoma has prognosis that is considerably better than that of other gynaecological malignancies because of early presentation to the hospital, early diagnosis and treatment. The objective of this research was to determine the prevalence, characteristics, prognostic factors, and outcomes of patients treated for endometrial cancer at the Federal Medical Centre, Yenagoa, Bayelsa State, Nigeria.

2. MATERIALS AND METHODS

This research work was conducted at the Department of Obstetrics and Gynaecology, Federal Medical Centre, Yenagoa. It was a descriptive study. It involved all the patients with endometrial cancer that were managed at the gynaecological unit between 1st January, 2016 and 31st December, 2020. Patients that were managed for other gynaecological conditions were excluded from this study. Data were extracted from the gynaecological clinic, gynaecological emergency and gynaecological ward registers, and patients' medical records and entered into a pre-designed proforma. All available data were retrospectively analysed using statistical software package and results were then presented in tables, frequencies and charts.

3. RESULTS

There were 17 cases of endometrial cancer in the 5 years under review. In the same period, 2,487 gynaecological patients were seen in the hospital. The prevalence of endometrial cancer

was 0.68% of all gynaecological cases in the period under review.

3.1 Sociodemographic Characteristics and Anthropometric Measures

Of the 17 women diagnosed with endometrial cancer, equal proportion (41.2%) were in the sixth and seventh decades of life respectively with a mean age of 61.9 years and a standard deviation of 10.0 years (Table 1). A value slightly above half were married (58.8%) while slightly less than a third were widows (29.4%). Equal proportion (29.4%) had secondary and tertiary levels of education respectively (Table 1). About one-third were overweight (35.3%), and two-thirds were obese (64.7%). Most of the women (88.2%) were resident in Bayelsa state (Table 1).

3.2 Gynaecological Cancers in the Federal Medical Centre, Yenagoa

Table 2 showed the incidence of the gynaecological cancers seen in the Centre in the period under review. Endometrial cancer was third after cervical and ovarian cancers (Table 2).

3.3 Gynaecological Features of Patients

The mean age at menarche and menopause among the women were 12.7 years and 52.7 years respectively with a standard deviation of 1.3 years and 4.2 years respectively (Table 2). About 2 in every 5 of the women were multiparous women (41.2%). Parity ranged between 0 and 12 with a median of 3 (Table 3).

3.4 Presenting Complaints and Risk Factors among Women with Endometrial Cancer

As shown in Table 4, the leading presenting complaints were vaginal bleeding (94.1%) and abdominal swelling (47.1%). Associated risk factors seen in the women were history of hypertension (64.7%) and diabetes mellitus (29.4%).

3.5 Staging and Histological Types of Endometrial cancer

Endometrioid adenocarcinoma was the most common variant of the cancer (70.6%), and a majority were diagnosed in Stage 1A of the disease (Table 5). Furthermore, in Table 5, more tumours had a size less than 2cm in diameter (64.7%).

Table 1. Sociodemographic characteristics and anthropometric measures of the patients

Characteristics	Frequency N = 17	Percent (%)
Age group		
50 - 59 years	7	41.2
60 - 69 years	7	41.2
>70 years	3	17.6
Mean Age ± SD in years	61.9 ± 10.0	
Marital status		
Married	10	58.8
Divorced	2	11.8
Widowed	5	29.4
Highest level of education		
None	3	17.6
Primary	4	23.5
Secondary	5	29.4
Tertiary	5	29.4
Occupation		
Unemployed	2	11.8
Civil Servant	7	41.2
Trader	4	23.5
Farmer	4	23.5
Mean weight ± SD in Kg	78.5 ± 4.8	
Mean height ± SD in m ²	1.60 ± 0.04	
Mean BMI ± SD in kg/m ²	30.6 ± 2.3	
Body mass index categories		
Overweight	6	35.3
Obese	11	64.7
Residence		
Bayelsa	15	88.2
Outside Bayelsa	2	11.8

BMI – Body mass index

Table 2. Gynaecological cancers in the federal medical centre, Yenagoa

	Cervical cancer	Ovarian cancer	Endometrial cancer	Total
Number of cases	31	20	17	68
Percentage (%)	45.6	29.4	25	100

Table 3. Gynaecological features of patients with endometrial cancer

Characteristics	Frequency N = 17	Percent (%)
Menarche		
Early menarche	4	23.5
Normal menarche	13	76.5
Mean age of menarche ± SD in years	12.7 ± 1.3	
Parity		
Nulliparity	2	11.8
Primiparous	2	11.8
Multiparous	7	41.2
Grand multiparous	6	35.3
Median Parity (Range)	3 (0 – 12)	
Menopause		
Early	1	5.9
Normal	9	52.9
Late	3	17.6
Pre-menopausal	4	23.5
Mean age of menopause ± SD in years	52.7 ± 4.2	

Table 4. Presenting complaints and risk factors among women with endometrial cancer

Characteristics	Frequency N = 17	Percent (%)
Presenting Complaints*		
Vaginal bleeding	16	94.1
Abdominal swelling	8	47.1
Abdominal pain	1	5.9
Risk factors*		
History of Hypertension	11	64.7
History of Diabetes mellitus	5	29.4
History of infertility	2	11.8
PCOS	1	5.9
Contraceptive Use (Implant)	1	5.9

*More than one options applies for an individual

Table 5. Staging and Histological types of endometrial cancer

Characteristics		Frequency N = 17	Percent (%)
FIGO staging			
	TNM		
Stage IA	T1a, NO, MO	13	76.5
Stage IB	T1b, NO, MO	2	11.8
Stage II	T2, NO, MO	1	5.9
Stage III	T3a/T3b, NO, MO;	0	0
	T1 – T3, N1, MO;		
	T1 – T3, N2, MO		
Stage IV	T4, any N, MO;	1	5.9
	Any T, any N, M1		
Histological Subtype			
	Endometroid Adenocarcinoma	12	70.6
	Squamous cell Carcinoma	3	17.6
	Adeno-squamous cell carcinoma	1	5.9
	Papillary	1	5.9
Myometrial Invasion			
	>50%	2	11.8
	<50%	14	82.4
Tumour size			
	<2 cm	11	64.7
	2 – 4 cm	2	11.8
	>4cm	3	17.6

3.6 Management Modality and Outcome of Care

Sixteen of the women (94.1%) had surgery (laparotomy + hysterectomy) and mean duration of surgery was 116.8±15.5 minutes (Table 6). One of the women had chemotherapy alone because she presented in stage IV, and was not fit for surgery; she died a few weeks after the first course of chemotherapy (Table 6).

4. DISCUSSION

Endometrial cancers formed 0.68% of gynecological cases seen in the period under review. This is similar to the finding of 0.56% by Abdullahi from North Central, Nigeria [11]. It is

midway between a slightly lower finding of 0.29% reported by Iyoke et al from South-East Nigeria and lower than the finding of 1.2% reported by Yakasai et al in North-West Nigeria [1,12]. The similarity in prevalence is consistent in areas that are part of a subregion where endometrial cancers constitute the third commonest gynaecological cancer [1,11].

Endometrial malignancy consisted of 25% of all gynaecological cancers in this study, which was the third most common gynaecological cancer, behind cervical cancer (45.6%) and ovarian cancer (29.4%) respectively. This pattern is consistent with what is already known about endometrial cancer in the developing countries [1].

Table 6. Treatment modality and outcome of management

Characteristics	Frequency N = 17	Percent (%)
Treatment		
Surgery (laparotomy + hysterectomy)	16	94.1
Mean duration of surgery ± SD in minutes	116.8 ± 15.5	
Lymph node Dissection		
Pelvic	1	5.9
Para-aortic	1	5.9
Chemotherapy	1	5.9
Outcome		
Recurrence	0	0.0
Defaulted	2	11.8
Death	1	5.9
Mean duration of Hospital stay ± SD in days	8.2 (3.2)	

A majority (82.4%) of the endometrial cancer cases were in women of 50 years and above with the mean age at presentation being 61.9 ± 10 years and this is comparable with the mean age at presentation of 62.4 ± 8.3 and 62 years in studies from Nigeria but differs slightly from 50.54 ± 15.18 and 57 years reported in European studies [11,1,13,14].

The general finding of advancing age among affected women globally supports the fact that advancing age, is the most important risk factor for endometrial and indeed all cancers overall [14,15,5]. This finding may not be unconnected with the postmenopausal status, for endometrial cancer, and a higher probability for the accumulation of carcinogenic exposures and somatic mutations influenced by other comorbid conditions seen with advancing age [13,15]. These tend to be more in Caucasians and in developed countries where Caucasian women have a 2.88% lifetime risk of developing endometrial cancer compared with a 1.69% risk for African - American women [15].

All the patients in this study were either overweight or obese with two-thirds being obese (64.7%). This is similar to several reported findings validating the role of obesity in endometrial cancer development [13,14,15,5,16].

It would seem significant that slightly more than half (58.8%) of the cases were among married but there has not been a known causal relationship with marital status. It may however be important to explore if marital status may have an impact on physical activity, a factor known to reduce endometrial cancer risk by 33–39%, an effect that is more pronounced in obese women [15,17].

There was no apparent strong association between nulliparity and endometrial cancer in this study as also indicated by several reports as 76.5% of cases were among women with parities between 2-12 [13-15,9]. There is, however, a consistent finding of what may be considered low parity in sub-Saharan Africa with a median parity of 3, similar to the findings by Yakasai et al and Joseph et al where 75% and 60% respectively of endometrial cancer cases were among women of lower parities when compared to cervical cancer cases which are seen in young and high parity women [1,18]. This has partly been attributed to low life expectancy in the subregion with high parity women more likely to die young from pregnancy complications [18]. Some other studies have however reported high parities in the subregion [19].

Early age at menarche or late age of menopause has been associated with endometrial cancer in several reports [13,15]. However, as seen in similar studies in Nigeria, these were not significant factors in this study as 76.5% had normal menarche with only 17.6% having had late menopause; the latter feature is reported to be less consistently associated with increased risk of the disease [1,5,20].

The leading presenting complaint in this study was abnormal vaginal bleeding seen in over 94% of the patients similar to findings from several other reports from Ibadan South-West Nigeria (96%), Romania (90%), with some reporting it in 100% of cases Zaria North-West Nigeria [15,5,19]. Such presentation in postmenopausal women should as such be considered to be of malignant origin until proven otherwise.

Associated risk factors seen in the cases of endometrial cancer studied were hypertension

(64.7%) and diabetes mellitus (29.4%). This is in agreement with similar findings in several other reports [14,15,20]. Much of this risk has been reported to be more notable when other comorbid conditions such as obesity are present, especially in hypertensive women [20].

Adenocarcinoma was the commonest histological type in this study accounting for 70.6% of the cases and similar with other reports [1,18,19]. This histologic type is known to have favourable prognosis, typically presenting at an early stage, as in this study, with abnormal uterine bleeding. The other variants seen in this study formed less than a third of the histologic types unlike the report by Adekanbi et al in Ibadan South-West Nigeria where they constituted about two-third [5]. This may be explained by the fact that the Centre has been a major referral facility for radiotherapy in cases considered to be high risk for persistence or recurrence.

The definitive diagnosis of endometrial cancer is histological. However, transvaginal ultrasound scan is the primary tool used in evaluating women with endometrial cancer. It reveals the presence of the tumour and myometrial invasion. The endometrial thickness is measured; endometrial abnormalities and adnexal pathologies are looked out for. The cut-off limit of endometrial thickness that is used in our Centre is 4 mm. All the patients in this study had a transvaginal ultrasound scan. The only patient that presented with stage IV disease had chest X-ray, intravenous urography and computed tomography (CT) scan done. CT scan is superior to magnetic resonance imaging (MRI) in identifying lymph node involvement. These aided the staging in the patients.

Small tumour size, early-stage at presentation with less than 50% myometrial invasion seen in nearly 90% of the endometrial cancer cases were among the favourable prognostic factors that made surgery a good management strategy. The importance of poor prognostic factors such as late presentation with associated lympho-vascular space (lymph node) involvement can be seen in this study where one of the patients died few weeks after chemotherapy.

The increased adoption of Western lifestyle and obesity in developing and sub-Saharan African countries may result in increased incidence of endometrial carcinoma. Hence, high index of suspicion with appropriate diagnostic and

therapeutic tools will avert attendant morbidity and mortality.

The strength of this study lies in the fact that it presents findings from a single tertiary facility using a uniform surgical and pathology team that follows established protocols.

Our study has a major limitation of being retrospective where there may be biases in our data.

5. CONCLUSION

Although, endometrial cancer lacks an effective screening method, the overall prognosis as seen in our study is better when compared to cervical and ovarian cancers, not because it is a less malignant tumour, but because presentation to the hospital was earlier, and treatment was also given earlier. Post-menopausal bleeding is much more difficult to ignore than the irregular vaginal bleeding in the younger woman.

CONSENT

It is not applicable.

ETHICAL APPROVAL

The research work was examined and approved by the hospital research and ethics committee.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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