Original Research Article

CASE FATALITY RATE AND REVIEW OF LITERATURE ON GNAECOLOGICAL CANCERS MORTALITY AT A SPECIALIAZED ONCOLOGY UNIT IN PORT HARCOURT

ABSTRACT

Background: Gynecological cancer is a major public health problem and an important cause of morbidity and mortality in women worldwide. There are only few researches on the overall mortality attributed to gynecological cancers in Nigeria.

Objectives: To determine the case fatality rate, prevalence and reason for mortality amongst gynecological oncology patients at the oncology unit of the University of Port Harcourt Teaching Hospital (UPTH).

Study Design: This was a retrospective study of mortality from gynecological cancers in UPTH between 1st January, 2014 and 31st December, 2018. Case files of patients with mortality from genital tract malignancies were reviewed and relevant information extracted

Results: A total of 2070 gynecological admissions were recorded out of which 399 were gynecological cancer patients, giving a 19.3% prevalence of gynecological cancer. Fifty-six gynecological cancer related deaths were reported within the study period with an overall cancer mortality rate of 14.0%. Ovarian cancer was responsible for the highest number of deaths 48.2% with a case-fatality rate of 18.6% while cervical cancer had a case fatality rate of 13.1%. Majority of the patients 96.6% presented at advanced stage of the disease. Those with financial constraints totaled 62.5% while 89.3% had challenges accessing specialized health care.

Conclusion: The study shows that the case-fatality rate of mortalities from gynaecological cancers at UPTH is very high with ovarian malignancy accounting for most deaths. Late presentation, low socioeconomic status and delay in accessing specialized health care were the main factors responsible for these mortalities. Proper screening, early diagnosis. prompt

treatment and improvement in the socioeconomic status of gynaecological cancer patients will improve the case fatality rate in UPTH.

Key words: Case fatality rate, gynaecological cancers, mortality, Port Harcourt

Introduction

Cancer is the second leading cause of death and morbidity worldwide, behind only heart disease.[1,2] Gynecological cancers are a major public health problem and they are important causes of mortality worldwide.[3] In 2008, the international agency for research on cancer (IARC) estimated that 53% of the 12.7 million new cases and 63% of the 7.6 million deaths from cancer to occur in developing countries.[2] Three decades earlier prior to the above statistics developing countries accounted for only 15% of global cancer burden.[2] A recent report based on IARC/GLOBOCAN estimated that by the year 2020 about 10.25 million new cases of cancer would be diagnosed in developing countries compared to 5.94 million in the developed world.[2] Some of the contributing factors to the rising trend of gynaecological cancers in developing countries include adoption of western lifestyle and behaviors such as cigarette smoking, high prevalence of immunosuppressant conditions such as malnutrition, tuberculosis, oncogenic infections like human papilloma virus, Epstein-Barr virus, and environmental pollution by hydrocarbon following gas flaring.[2,4] There is also increasing health awareness on gynaecological cancers that has made many to seek medical care other than traditional methods of treatment hence increasing the number of reported cases.

Cervical and ovarian malignancies are the commonly encountered genital tract malignancies in developing countries with cervical cancer being the most common in virtually all developing countries where organized screening programmes are lacking.[2,5-7] A hospital-based study, showed that cervical cancer was the leading cause of death among gynecological cancer patients accounting for over 44% of gynecological mortality.[8] In 2018, a worldwide global estimate of about 570,000 cases and 311,000 deaths resulting from cervical cancer was recorded.[9] From a report in Nigeria, in 2005 an estimated population of 32 million women was counted and the incidence of cervical cancer was 25/100000 per year. This translated to a disease burden of about 8000 cases per year.[2,10] Ovarian cancer is the second most common gynecological cancer in

developing countries.[2,11,12] It accounted for 18.8% of all gynecological cancers in developing countries and 28.7% in developed countries.[2,11] Its case fatality rate is 59.2% in developing countries and 54.8% in developed countries.[2] In 2018, 295,414 cases and 184,799 deaths were recorded.[9] The high case fatality rate of ovarian cancer is due to the fact that the disease only become manifest in advanced stage.[13-15]

Endometrial, vulva and vagina cancers are less frequently diagnosed gynaecological cancers in developing countries. The incidence of endometrial cancer in South Asia and Africa is as low as 4/100000.[2] In 2018, 382,069 cases and 89,929 deaths from were recorded.[9] Its incidence in South Asia and Africa is as low as 4/100000.[2] Vulva and vaginal cancers account for less than 5% of gynecological cancers worldwide.[2,11,16] In 2012, 26,800 cases of vulva cases were recorded, out of which 11100 (41.4%) occur in developing countries.[2] In 2018, 44,235 cases and 15,222 deaths were recorded.[9] Its incidence rate was less than 1/100000 in developing countries.[2,17,18] In 2002, a total of 13,200 cases of vagina cancers were recorded globally, of which 9,000 (68%) occurred in developing countries. In 2018, 17,600 cases and 8,062 deaths were recorded.[9] The case fatality rate in developing countries is 44.7% while in developed world it is 15.4%.[2,18]

Choriocarcinoma accounts for 0.6% of all gynecological cancers.[2,11] In 2012, approximately 5,800 choriocarcinoma cases were found worldwide out of which 5,400 (96.4%) occurred in developing countries accounting for 96.4%.[2,11] Its incidence rate varies worldwide with highest occurrence in South East Asia with a rate of 0.43-1.7/100000 as compared to 0.04/100000 in Africa and Europe.[2]

Aims and objectives

The main aim of the study was to determine the case fatality rate of gynecological malignancies at University of Port Harcourt Teaching Hospital. The other objective was to determine the reasons associates with gynaecological cancer mortalities. The socio-economic status of the patients was determined using the scoring system devised by Olusanya et al.[19]

Methods and materials

This was a five-year retrospective study of case files of patients with genital tract mortality from 1st January 2014 to 31st December 2018 using data from case records, duplicated copies of death certificate and hospital register. Data obtained where the socio-demographic characteristics, interval between onset of symptoms and presentation to the hospital, diagnosis at presentation, cause of death and interval between admission and death, stage of the disease, type of treatment, primary and secondary causes of death. The institutional protocol is to performed examination under anesthesia, staging and biopsy (histological confirmation) for all cases of cervical malignancy and those with advanced stage disease are referred for chemoradiation while those with early stage disease will benefit from radical hysterectomy. Patients with ovarian malignancy usually will require staging laparotomy, total abdominal hysterectomy, bilateral salpingo-ovariectomy, infracolic omentectomy and pelvic lymphadenectomy followed by chemotherapy for residual disease. Permission was obtained from the department of Obstetrics and Gynecology and Medical records, for the use of patients' case notes for the research. The data was entered and analyzed using SPSS version 22 software package and presented as simple frequencies, ratios, percentages and frequency tables.

RESULTS

A total of 399 gynecological cancers were diagnosed and managed, out of 2070 gynecological admissions, giving a prevalence of 19.3%. During the study period, 56 gynecological cancer related deaths were recorded giving an overall cancer mortality rate of 14.0%.

Most of the mortalities (67.9%) occurred between the ages of 41 to 60 years with a mean age of 54 $\pm$ 4.2 years. Majority of the patients 33 (58.9%) were married and most 30 (53.6%) were of low socio-economic status.

A greater number of the patients 168 (42.1%) had cervical cancer followed by ovarian malignancy while vulva malignancy and uterine sarcoma had the least frequencies as shown in table 2. There were 56 recorded cases of cancer related deaths within the study period with ovarian malignancy accounting for 27 (48.2%), cervical cancer 22 (39.3%), choriocarcinoma

(5.3%), endometrial cancer 2 (3.6%) and vulval carcinoma 2 (3.6%). Ovarian malignancy had the highest case fatality rate of 18.6%, vulval cancer was 14.3%, cervical cancer was 13.1% while endometrial cancer had the least case fatality rate of 4.3% as shown in table 3.

The yearly cancer mortality rate ranged between 8.3% (5 cases) and 20.4% (19 cases). The year 2018 recorded the highest number of gynecological cancer related deaths (19 deaths) while 2014 recorded the lowest number of gynecological cancer related deaths (5 deaths). Most of the deaths 24 (43.0%) occurred 8weeks and beyond after admission. Majority of them 27 (48.2%) had both surgery and chemotherapy while 18 (32.1%) had palliative treatment. Fifty (89.3%) of the patients who had delay in accessing specialized care were referred from other facilities.

Majority of the patients had financial challenges 35 (62.5%) while 50 (89.3%) had delay in accessing proper health care. Delay in getting histology report was noted in 3 (5.36%) patients while 54 (96.4%) presented at advanced stage of the disease (Stage 111/IV). All the deaths occurred at advanced stage of the disease.

Discussion

Gynecological cancers are major public health problem and a challenge to the society. It is an important cause of morbidity and mortality in women worldwide. It accounted for 25% of all new cancers diagnosed among women aged 65 years, in developing countries as compared to 16% in the developed world.[2] It is imperative to note that its burden in developing countries is huge due to the fact that a significant proportion of the patient are poor and are unable to access and avail themselves of the few available preventive, diagnostic and treatment services. In this study, the prevalence of gynaecological mortality was 19.3% and its similar to 19% found worldwide[11]. Most of the deaths 38 (67.86%) occurred between the ages of 41 and 60 years with the mean age being 54 years. This is in tandem with previous studies which showed the disease preponderance in the post-menopausal age.[2,18,20]

Although, cervical cancer had a higher prevalence, ovarian cancer was found to be the leading cause of gynecological cancer mortality (48.21%) with a case fatality of 18.6%, as opposed to findings in other studies in which cervical cancer was the leading cause of mortality.[2,8] These

may be due to the fact that many patient with cervical cancer who were referred for radiotherapy were lost to follow-up and the final outcome for those patients were not accounted for. Understandably, the few radiotherapy centres would be overwhelmed with the burden of these referrals and some of these patients may die without definitive care. This buttresses the need to have a radiotherapy centre in every tertiary institution where cancer care is instituted as this will enhance better management of gynaecologic cancers. Unlike cervical cancer, the mortality for ovarian cancer is similar for both developed and developing countries due to the fact that the screening methods for ovarian cancer are not very reliable and ovarian cancer does not have a pre-invasive stage. In most instance, it only become manifest in advanced stage thus accounting for the poor outcome.[13-15,21]

Other reasons for the high mortality of patients with gynecological cancers were noted to be; poor health-seeking behaviour of patients, lack of access to healthcare facilities, poor knowledge of cancer among health-care providers and late presentation. In this study, majority of gyneacological cancer patients (96.4%) presented at advanced stages of the disease.

Therefore, public enlightenment and education of the society about cancer and its symptoms is the key to reducing its mortality. There is also need for an effective nationally organized screening programme for cervical cancer. These will encourage majority of women to participate. The government should also subsidize human papilloma virus (HPV) vaccine and HPV typing for patient. The training of health workers is also essential in making prompt diagnosis and appropriate referrals to specialized centers for proper management.

Conclusion

Ovarian cancer accounted for majority of gynecological cancer related deaths although cervical cancer occurred the most. This may be due to the fact that most patient with cervical cancer referred for radiotherapy were lost to follow up. This buttresses the need for radiotherapy services in tertiary institutions managing cancer related conditions. Also, with effective

nationally organized cancer screening programmes and management policies, majority of gynecological cancer related deaths especially cervical cancer could be avoided.

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Table 1: Socio-demographic Characteristics

Sociodemographic factor	**Frequency (56)**	**Percentage**
Age of the patients (years)		
20-40	8	14.29
41-60	38	67.86
61 and above	10	17.86
Marital Status		
Single	11	19.64
Married	33	58.93

Divorced	4	7.14
Widowed	8	14.29
Educational level		
No formal education	2	3.57
Primary	24	42.86
Secondary	17	30.36
Tertiary	13	23.21
Occupation		
Unemployed	17	30.36
Employed	9	16.07
Entrepreneur	30	53.57
Social economic class		
Low Class	30	53.57
Middle Class	18	32.14
High Class	8	14.29
Parity		
Para 0	7	12.50
Para 1-4	29	51.79
Para 5 and above	20	35.71

Table 2: Gynaecological cancer admissions

Year	2014	2015	2016	2017	2018	**Total**
Gynecological Admissions	360	517	244	390	559	**2070**
Cervical cancer	39	45	20	35	29	**168**
Ovarian cancer	15	32	27	32	39	**145**
Endometrial cancer	4	15	9	13	5	**46**
Choriocarcinoma	1	2	5	5	12	**25**

Vulval cancer	1	-	3	2	8	**14**
Uterine sarcoma	-	-	-	1	-	**1**
Total cancers	**60**	**94**	**64**	**88**	**93**	**399**

Table 3: Case Fatality Rate

Cancer type	**Frequency**	**Number of deaths**	**Case fatality rate (%)**
Cervical cancer	168	22	13.1
Ovarian cancer	145	27	18.6
Endometrial cancer	46	2	4.3
Choriocarcinoma	25	3	12.0
Vulval cancer	14	2	14.3

Table 4: Yearly Cancer Mortality Rate

Year	**Cancer Death**	**Cancer Diagnosis**	**Cancer Mortality Rate (%)**
2014	5	60	8.33
2015	8	94	8.51
2016	11	64	17.19
2017	13	88	14.77
2018	19	93	20.43
Total	**56**	**399**	**14.04**

Table 5: Challenges of patient management

Challenges	No	Percentage (%)
Delay in carrying out surgery	1	1.79
Delay in making diagnosis	2	3.57
Delay in getting histology report	3	5.36
Could not afford chemotherapeutic drugs	4	7.14
Could not provide drug on time	2	36.6
Financial constraints	35	62.5
Delay in presenting/ accessing care	50	89.3