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CASE STUDY

THE INCIDENCE OF UTERINE FIBROID AMONG REPRODUCTIVE AGE WOMEN: A FIVE YEAR REVIEW OF CASES AT ISTH, IRRUA, EDO, NIGERIA

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ABSTRACT

This study is a 5 year retrospective analysis on the incidence and age distributions of uterine fibroid among reproductive age women presenting at the gynecology department of Irrua Specialist Teaching Hospital (ISTH), Irrua, Edo, Nigeria, from January 2008 to December 2012. Using judgmental probability technique to select units in the wards, records were reviewed and the data subjected to statistical analysis. Overall, 4536 case files were reviewed among which 896 were positive for uterine fibroid; giving a prevalence of 19.75. Specifically, the year 2012 recorded the highest incidence of uterine fibroid (23.59), followed by the year 2008 (23.36), 2009 (19.78), 2011 (18.91) and 2010 (14.56) respectively. Women within 26 – 35 years were significantly affected in all the years under study, with an incident rate of 66.96, while older women (>35) and those younger (<26), presented an incident rate of 29.58 and 3.46 respectively. Judging by these findings, it is obvious that uterine fibroid remains an issue that needs attention in Edo state and its environs. It is our opinion therefore, that an effective awareness/screening programme strategy be adopted in line with efforts to meet the millennium development goals on maternal mortality and morbidity.

Keywords: Uterine fibroid, Reproductive age, Irrua,

INTRODUCTION

Globally, gynecological cancers have remained an important health concern (Nkyekyer, 2000), especially uterine fibroid, which has been reported to be the commonest benign-type tumor that develops in the muscular wall of the uterus (Lowe, 1999; Newbold et al., 2000; Vollenhoven, 1998; Ross et al., 1986), with an estimated incidence rate of 20% - 45% among women above the age of 30 years (Akinyemi *et al*., 2004).

Although its aetiology is unclear, epidemiologic studies suggests however, that it is a hormone-dependent benign tumor that follows the reproductive life cycle of a woman, increasing in risk with age up until the fifth decade, and then declines precipitously at menopause (Schwartz et al., 2000a,b; Cramer et al., 1995). In fact, its growth is said to be regulated by ovarian steroids and growth factors, with nulliparity, polycystic ovary syndrome, hypertension and diabetes mellitus as associated increased risk factors (Okolo, 2008). Other risk factors noted by several studies include age (Marshall et al., 1997; Wilcox et al., 1994; Ross et al., 1986), African-American ethnicity (Day Baird et al., 2003; Faerstein et al., 2001; Kjerulff et al., 1996, Marshall et al., 1997), obesity (Okoronkwo, 1999; Marshall et al., 1998; Sato et al., 1998; Lumbiganon et al., 1996), diet (Chiaffarino et al., 1999), excessive radiation (Kawamura et al., 1997; Wong et al., 1993), family history (Luoto et al., 2000; Van Voorhis et al., 2002; Sato et al., 2002; Gross

and Morton, 2001; Schwartz et al., 2000a), age at menarche and infertility (Sato et al., 2000; Faerstein et al., 2001; Cramer et al., 1995, Marshall et al., 1998).

Of greater concern however, is the fact that fibroids are common among Black women than Caucasians (Oguniyi and Fasuba, 1990). For example, the incidence rate of fibroids in Nigeria ranges from 17.9- 26% (Sagay *et al*., 1998; Vollenhoven *et al*., 1990) as against 11% in Europe and United States (Ogedengbe, 2003). In fact, uterine fibroids account for 3.2 – 7.8% of new gynaecological cases and 68.1% of hysterectomy cases in Nigeria (Aboyeji and Ijaiya, 2002; Otolorin *et al*., 1987).

Although uterine fibroids are sometimes asymptomatic, the common symptoms in symptomatic cases includes: menstrual dysfunction, pains, pressure related symptoms, sub-fertility, and pregnancy related problems (Mcllveen and Li, 2005; Ande et al., 2004).

There is no doubt that uterine fibroid represents a significant public health concern, considering its poorly understood aetiology, the symptoms in symptomatic cases, and the nature of its African dominance. However, the aim of this study is to evaluate the incidence and age distribution of uterine fibroids among child bearing women presenting at the Gyneacology department of ISTH from January, 2008 to December, 2012.

MATERIALS AND METHODS

Study area: The Irrua specialist teaching hospital is located in Irrua, the administrative head quarters of Esan Central Local Government Area of Edo State, Nigeria. The hospital was established and commissioned in 1993 as a 230 bedded hospital but later upgraded to a specialist teaching Hospital. Apart from patients resident in Edo state, ISTH receives patients from neighboring states like Delta, Kogi and Ondo states. ISTH serves also as a teaching hospital for medical interns and residents, as well as students of the School of Post Basic Nursing, Irrua, Zuma Memorial School of Midwifery, Irrua; Saint Camilus School of Midwiffery, Uromi; and Students of the College of Medicine, Ambrose Alli University, Ekpoma.

Study design: This is a retrospective study of child bearing women presenting at the gyneacological unit of ISTH Irrua, from January, 2008 to December, 2012.

Ethical Consideration: Permission to carry out this retrospective study was sort for and obtained from the Head, Department of Gyneacology, ISTH Irrua.

Sampling techniques: Judgmental probability technique was used to select the units in the department of Gyneacology, ISTH Irrua, which included the antenatal clinic, post natal unit, gynaecology ward, female surgical ward, and the Medical laboratory unit.

Data analysis: Data obtained from this study were collated and analyzed using SPSS version 16 (Inc. Chicago Illinois, USA), and the results presented with suitable tables.

RESULTS

Overall, there were 4536 reproductive age women that presented at gynaecology department of ISTH during the period under study. The files reviewed showed that 896 of the women were positive for uterine fibroid giving an incidence of 19.75%. The breakdown of this figure for the five-year period is as follows: 2008 (96 cases; 23.36%); 2009 (120 cases; 19.78%); 2010 (150 cases; 14.56%); 2011 (230 cases; 18.91%); and 2012 (300 cases; 23.59%) (*See* table 1). It was observed that the number of uterine fibroid cases increased as years progressed, with the year 2012 having an overall highest percentage increase of 33.48%. Also, the comparative percentage increase between adjoining years was highest between 2010 and 2011 (53.35%), followed by that between 2011 and 2012 (30.43%).

The age distribution of patients with uterine fibroids during the five-year period is shown in table 2, and it indicates that majority of the women were between the ages of 26 and 35 (66.96%), followed by women between the ages of 36 and 45 (29.58%), and those between the ages of 16 and 25 (with the least percentage incidence of 3.46%) respectively. It was also observed that in each of the year under review, women within the ages of 26 – 35 were considerably represented compared to women above or below this age range.

Table 1: Incidence of uterine fibroid at the five retrospective studies in ISTH

Year	2008	2009	2010	2011	2012	Total
File Reviewed	411	607	1030	1216	1272	4536
UF positive	96	120	150	230	300	896
Incidence	**23.36**	**19.78**	**14.56**	**18.91**	**23.59**	**19.75**
% distribution	**10.71**	**13.39**	**16.74**	**25.67**	**33.48**	**100**
Yearly % increase	-	**25.02**	**25.02**	**53.35**	**30.43**	

Table 2: Age distribution of patients with uterine fibroid at the five years retrospective study in ISTH

Age (years)	2008	2009	2010	2011	2012	Total
16 – 25	2	6	5	8	10	31 (3.46)
26 – 35	90	82	93	147	188	600 (66.96)
36 – 45	4	32	52	75	102	265 (29.58)
Total	**96**	**120**	**150**	**230**	**300**	**896 (100.0)**

DISCUSSION

The observed incidence of uterine fibroids among the women under review seems to be relatively high (19.75%) but slightly lower than the incidence rate of 25.9% obtained in Enugu (Ozumba et al., 2011) and within the incidence range of 17.9% - 26% reported in some other Nigerian studies by Sagay *et al*. (1998) and Vollenhoven *et al*. (1990).

However, the incidence rate (19.75%) recorded in this study, is obviously higher than the incidence rate of 11% for Europe and United States (Ogedengbe, 2003) and 2.8% reported for Ghana (Nkyekyer, 2000). Back home also, the incidence rates reported for some other parts of Nigeria are also lower than the incidence rate recorded in this study. Specifically, 7.6% and 8.35% were recorded for Ife and Ilesha (both in Osun State) respectively (Ogunniyi, 1990; Sankaran and Manyonda, 2008); 3.2% for Sagamu, Ogun State (Akinyemi et al., 2004), 3.0% and 13.4% for llorin, Kwara State (Omokanye et al., 2012; Aboyeji and Ijaiya, 2002), and 10.7% for both Nnewi, in Anambra State (Ezeama et al., 2012) and Kano State (Yakasai et al., 2013). Even the incidence range of 4.18-4.7% reported for Portharcourt (Briggs and Katchy, 1990) and Zaria (Emembolu and Ekwempu, 1988), is also lower than the incidence rate of 19.75% recorded in the present study. That ISTH receives several patients, not only from Edo state, but also from neighboring states, may account for the incidence rate recorded in this study, since it may possibly be the sum of a shared incidence rate between Edo and neighboring states.

On the other hand, the observation that uterine fibroid was predominant among reproductive women in their 26 to 35 years age range, is in line with the report that most of the time, fibroids grow in women of child bearing age (Newbold et al., 2000), making surgical intervention inevitable with its attendant morbidity. Similarly, the high incidence of uterine fibroid within this age range, agrees with those reported by several authors (Akinyemi *et al*., 2004, Aboyeji and Ijaiya, 2002; Sagay *et al*., 1998: Vollenhoven *et al*., 1990). It also supports the fact that uterine fibroid is a hormone-dependent tumor that follows the reproductive life cycle of a woman (Schwartz et al., 2000a,b; Cramer et al., 1995) and symptoms of uterine fibroids become apparent by the age of 30 (Sagay *et al*., 1998; Otolorin *et al*., 1989; Olatinwo and Offiong 2000).

Furthermore, the high incidence of uterine fibroid among women within the 26-35 age range might be related to the high exposure to other risk factors such as reproductive tract infections and abortion considering their involvement in risky social behaviors. This is evident in the report that a high incidence of uterine fibroid has been observed among patients with pelvic inflammatory disease and infertility (Omokanye et al., 2012; Sagay *et al*., 1998; Vollenhoven *et al*., 1990: Gross, 2000). Diet has also been implicated as a risk factor especially meat consumption (Flake et al., 2003), while myometrial irritation due to pelvic infections, has been associated with uterine fibroid (Gross *et al*. 2000; Stewart and Nowak 1998; Adinma, 1994) and may account for the high incidence of uterine fibroids among black women.

Judging by the findings of this study, it is obvious that uterine fibroid remains a public health concern indicating that if Nigeria must achieve her vision 2020 and the millennium development goal on maternal and child mortality and morbidity, uterine fibroids must be given the attention it deserves. It is our opinion therefore, that an effective awareness/screening strategy be adopted in line with efforts to meet the millennium development goals on maternal mortality and morbidity.

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AUTHOR(S) CONTRIBUTION

Elugwaraonu, O., was involved in the collection of data with assistant and supervision from Okojie A.I.O., and Okhia, O. All authors including Oyadoghan G.P. were involved in the presentation, criticism and approval of the final submitted draft.