



Presentation and Surgical Treatment Outcomes of Patients with Uterine Fibroids in a Tertiary Centre, South-South Nigeria

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Summary

INTRODUCTION

Uterine leiomyomas frequently cause abnormal menstrual bleeding and are thought to be involved in infertility. Hence there is a need to identify the mode of presentation and management prevalent in our area to make recommendations on the measures to reduce the associated complications.

MATERIALS AND METHODS

This is a retrospective review of all cases of symptomatic uterine leiomyoma managed surgically at the university of Calabar teaching hospital between January 1st, 2008 and December 31st, 2012.

RESULTS

Uterine leiomyoma accounted for 31.6% of all gynaecological operations in UCTH. Of these, 72.9% of the patients were in their 3rd to 4th decade of life. Nulliparous women accounted for 70% of all cases reviewed. The most common reason for the presentation was infertility (30.7%), while haemorrhage was 18.7%. Majority of the patients were managed by myomectomy (85.7%). The complications associated with surgical treatment seen in this study included wound infection (15.7%), haemorrhage (27.1%), pyrexia (12.1%), injury to the bladder (1.7%), ureteric injury (0.4%) and death (0.4%).

CONCLUSION

Surgery remains the most common management option in our environment. Poorly managed surgical treatment is the major cause of complications and therefore proper therapeutic options are paramount to secure the reproductive potential of the patient and reduce complications.



Keywords: Leiomyoma, Infertility, Complications.

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Introduction

Uterine leiomyoma is among the most common problems encountered by Obstetricians and Gynecologists [1]. Leiomyomas are a frequent cause of abnormal menstrual bleeding and are thought to be involved in infertility. They are the most frequent indication for hysterectomy before menopause [2,3,4].

The prevalence rate varies from 20-50% of reproductive-aged women, depending on the age, ethnicity, parity and method used to assess their prevalence [5]. Results from ultrasonic studies indicate the presence of at least one small myoma in 1 out of 155 women, with 10-35% of Caucasian women and 30-50% of African American women having fibroids of clinical significance [6].

Genetic factors and familial predisposition are blamed for increased frequency [7], as well as the prevalence of pelvic inflammatory disease and obesity in black women [8].

Though the majority of leiomyomas are asymptomatic, a few may cause distressing symptoms such as menstrual abnormalities, pelvic pressure or pain, obstructive symptoms, infertility or pregnancy loss. Very large tumours have been known to cause pelvic discomfort, respiratory failure, urinary symptoms and constipation [9]. The role of leiomyoma in infertility is controversial, though possible mechanisms may include distortion of the endometrial cavity and abnormal endometrial surface, thereby affecting both sperm transport and embryo implantation [3].

The diagnosis is made from a combination of detailed history, physical examination, laboratory and radiological investigations [10].

The management of leiomyoma depends on the available treatment options, patient's age,

parity and future reproductive desires, general health, symptoms, size and location of the leiomyoma [6,10,11]. Treatment options include expectant management, surgery, uterine artery embolization, ablative techniques, and medical management [11].

There was a need to identify the mode of presentation prevalent in this area and management to make recommendations on the measures to reduce the associated complications. This study was therefore aimed at evaluating the socio-demographic characteristics and complications in patients managed surgically for uterine fibroids in our centre.

Materials and Methods

This was a retrospective cross-sectional study of patients who had surgical management of uterine leiomyoma at University of Calabar Teaching Hospital (UCTH) from January 1st, 2008 to December 31st, 2012. The research protocol fulfilled the criteria for approval by the research ethics committee of this hospital. The case notes of the patients were retrieved from the Medical Records Department of the hospital and relevant data obtained from them. Information was also extracted from records in the gynaecological ward and theatre.

Out of 320 cases of uterine leiomyoma, 280 case files were retrieved and used for data collection and analysis. All data were imputed and analyzed using Epi-info 3.3.2 statistical package and represented by simple percentages and descriptive statistics.

Results

There were 1,920 gynaecological admissions and 886 gynaecological operations within the five-years review period (January 1st, 2008 to December 31st, 2012). Even though 320 cases of uterine leiomyoma were recorded, only 280 case notes were found and analyzed (87.5% retrieval). Uterine leiomyoma was responsible



for 16.6% (320 cases) of all gynaecological admissions and 31.6% (280 cases) of all gynaecological operations.

Table 1, presented at the end of this article, shows the socio-demographic characteristics of women with uterine myoma. Many of the women, 120 (42.9%) were in their fourth decade of life. Uterine leiomyoma was most common among nulliparous women [parity 0] 196 (70%). Fibroids appeared to have an inverse relationship with parity. There were 152 (54.3%) married women, and 76 (27.1%) single women.

Table 2 shows the presenting complaints. The most frequent symptom was infertility, both primary and secondary, 86 (30.7%) followed by abdominal swelling which was 82 (29.3%). Amenorrhea was the least common symptom 12 (4.3%), while menorrhagia accounted for 52 (18.6%).

Table 3 shows the leiomyoma size at presentation. The size of myoma at presentation ranged from 10 weeks to 38 weeks' clinical estimation relating to size of uterus in gestational age. Uterine myoma size between 14 -20 weeks had the highest percentage of 110 (39.3%). Giant leiomyoma with clinical estimation of ≥ 36 weeks had the least number of patients, 20 (7.1%), 21 – 28 weeks' size accounted for 73 (26.1%) and myoma size of ≤ 12 weeks accounted for 37 (13.2%).

Table 4 shows the treatment modalities for uterine fibroid. All the patients in this study had surgery as the modality of treatment. Myomectomy was performed on 240 (85.7%), while hysterectomy was done for 40 (14.3%) of patients.

Table 5 shows the complications following hysterectomy and myomectomy for uterine leiomyoma. Out of the 240 patients who had myomectomy 101 (42.1%) had no complications. While out of the 40 patients who had hysterectomy 18 (45%) were without complications. There were 67 (27.9%) cases of myomectomy complicated by haemorrhage, while nine (22.5%) cases of hysterectomy were

complicated by haemorrhage. A total of 39 (16.3%) of the 240 patients who had myomectomy developed wound infection, while five (12.5%) out of the 40 patients who had hysterectomy developed wound infection. Injury to the bladder was recorded in two (0.8%) of the patients who had myomectomy; whereas three (7.5%) of the patients who had a hysterectomy had the complication of bladder injury.

Death was one of the complications recorded with myomectomy accounting for one (0.4%) death. There was no death following hysterectomy.

Discussion

The incidence of uterine leiomyoma in this study was 14.6% of all gynaecological admissions. This is comparable to the incidence of 13.4% reported at Ilorin [12], and 13.6% reported in 2008 at Abakaliki [13] but higher than the incidences of 6.58% and 10% reported at Ife [4] and in Ghana [14] respectively. The difference in incidence recorded in some studies may be because of ethnic and regional differences in the incidence of uterine fibroid.

Most patients in this study presented in the third and fourth decades of life, which agrees with earlier studies [12,15,16]. There was a decreasing incidence towards the age of menopause.

The influence of parity on the occurrence of uterine fibroids was thought to be related to the risk of hypoxic injury to the myometrial cells with frequent menstruation [6], in this study, uterine fibroid was most common among the nullipara (70%), followed by parity of 1-2 (19.3%), parity of 3-4 (7.9%) and parity ≥ 5 (2.8%). This decreasing incidence with increasing parity was also documented in other studies [4,15,16].

Uterine fibroids have been known to be larger in size in black women than in Caucasian women [6]. This may be because most patients in our environment first seek help from unorthodox caregivers and prayer houses, only to seek orthodox help as a last resort. In this study, most of the leiomyoma were greater than



14 weeks' gestational age equivalent upon clinical examination.

Infertility was the most common presentation 86 (27.1%) followed by abdominal mass 82(25.8%), menorrhagia (16.4%) and abdominal pain (15.1%). The finding of infertility as the most common presentation in this study is at discrepancy with the finding at Port-Harcourt and Ife [4,16], where menorrhagia was the most common presentation. This difference may be accounted for by the fact that most blood loss assessment is subjective and notoriously prone to underestimation even by health care providers [17].

Also, amenorrhea was present in 4.3%. It is difficult to ascertain whether uterine fibroid was the only factor responsible for infertility and amenorrhea. In our environment with high prevalence of sexually transmitted infections and where most people take unorthodox medications before presenting to the hospital, this may be contributory [8]. Also, obesity with increased body mass index may be a contributory factor to the amenorrhea and infertility in women with uterine fibroid [8]. Some studies have shown that fibroid may be associated with infertility and have documented that the removal of uterine fibroid may result in conception within 12 – 18 months of myomectomy, thus implicating fibroid in reproductive failure [4,14,18]. Some of the possible mechanisms through which fibroids may cause infertility include distortion of the endometrial cavity, mechanical obstruction of the fallopian tubes and cervix and hormonal imbalance [4,14,15,19]. Thus it is important to establish tubal patency before myomectomy especially where infertility is a presenting complaint.

All patients in this study had surgical management either as abdominal myomectomy (85.7%) or total abdominal hysterectomy [TAH] (14.3%). The result of abdominal myomectomy was much higher than the 40.9% obtained at Ife, and only 14.3% had TAH as opposed to 46.6% at Ife [4]. In our environment femininity is much associated with the ability to menstruate and

bear offspring. This may be the reason for strong aversion and vehement opposition to the removal of the uterus seen among the people. There is belief in reincarnation and subsequent infertility, as has been documented, and may be the cause of strong emotional attachment to the womb [13]. All these could have accounted for the greater number of myomectomies and fewer hysterectomies than was reported at Ife [4].

Most patients stayed more than one week in the hospital after a myomectomy than following a hysterectomy. The mean number of days after myomectomy was 8.5 days. The longer stay may probably be due to the occurrence of more complications in patients undergoing myomectomy. The complications associated with surgical treatment seen in this study included wound infection, haemorrhage, anaemia, pyrexia, injury to the bladder, ureteric injury and death. The complications seen were comparable to those documented in other parts of the country [3,7,14,18,20,21].

Conclusion

Uterine fibroids are a common cause of both gynaecological admissions and gynaecological surgery in our environment. This study revealed that the burden of the disease was on the nulliparous, who were desirous of fertility. The clinical presentations such as infertility, abdominal pain and menorrhagia seen in this study were similar to that in other parts of the country and the Western world [12,13,17].

The management options during the period of study were myomectomy and hysterectomy with their associated complications. The common complications were a high rate of wound infection, haemorrhage and urinary tract injury, which are also factors responsible for the high maternal morbidity and mortality seen in developing countries. Other management options not utilized include – endoscopic myomectomy, laparoscopic myomectomy, laparoscopic myolysis, laser, resectoscopic myomectomy and laparoscopically assisted vaginal hysterectomy.



Recommendations

Surgery remains the most common management option in our environment and this is the reason why early presentation is encouraged, so that a less invasive therapeutic option may be considered to secure the reproductive potential of the patient. Early childbirth, female education and empowerment, training and utilization of modern management options and closer support and training of unspecialized attending surgeons, will go a long way in reducing complications associated with surgical management.

Conflict of Interests

The authors declare that there is no conflict of interests regarding the publication of this paper.

Authorship Contributions

The lead author undertook the major part in writing and researching this article, with the review, editing and plagiarism verification done by the second and third author.

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Appendix

Table 1: Socio-Demographic Characteristics

	Number of Patients	Percentage
Age Range		
≤ 20	0	0
21-30	84	30
31-40	120	42.9
41-50	62	22.1
≥ 51	14	5
Total	280	100
Parity		
0	196	70
1-2	54	19.3
3-4	22	7.9
≥5	8	2.8
Total	280	100
Marital Status		
Single	76	27.1
Married	152	54.3
Divorced	10	3.6
Widow	42	15
Total	280	100



Table 2: Presenting Complaints

Complaint	Frequency (n=280)	Percentage
Abdominal mass	82	29.3
Primary Infertility	40	14.3
Secondary Infertility	46	16.4
Recurrent miscarriage	18	6.4
Menorrhagia	52	18.6
Weakness	20	7.1
Abdominal pain	48	17.1
Amenorrhea	12	4.3

Table 3: Leiomyoma Size at Presentation

Size (GA weeks)	Number of Patients	Percentage (%)
≤12	37	7.1
14-20	110	39.3
22-28	73	26.1
30-34	40	14.3
≥36	20	13.2
Total	280	100



Table 4: Treatment Modalities

Modality of treatment	Number of patients	Percentage (%)
Myomectomy	240	85.7
Hysterectomy	40	14.3
Total	280	100

Table 5: Complications

Complications	Total (%) (n=280)	Myomectomy (n=240) number (%)	Hysterectomy (n=40) number (%)
No complications	119(42.5)	101(42.1)	18 (45)
Hemorrhage	76(27.1)	67 (27.9)	9 (22.5)
Pyrexia	34(12.1)	30 (12.5)	4 (10)
Wound Infection	44(15.7)	39 (16.3)	5 (12.5)
Injury to Bladder	5(1.8)	2 (0.8)	3 (7.5)
Ureteric Injury	1(0.4)	0 (0)	1 (2.5)
Death	1(0.4)	1 (0.4)	0 (0)