Original Research Article

Prevalence, clinical presentation and management options of uterine fibroids in a Nigerian tertiary institution.

ABSTRACT

Background: Uterine fibroids are benign tumors of the smooth muscle and the connective tissue of the uterus affecting reproductive age women. Many treatment options for uterine fibroids abound. The aim of the study was to determine the prevalence of uterine fibroids. It also determined the clinical presentation and surgical management options for uterine fibroids with emphasis on myomectomies at the Rivers State University Teaching Hospital (RSUTH).

Methods: A retrospective descriptive study of 406 women who had abdominal myomectomy over a period of 5 years from 1st January, 2016 to 31st December, 2020 at RSUTH, Port Harcourt. A structured proforma was designed and used to extract data from operating theatre registers and the hospital medical records. Data was entered and analyzed using the statistical package for social sciences (SPSS) IBM version 25.0 (Armonk, NY).

Results: A total of 1682 gynaecological surgeries were done over the study period. Four hundred and sixty eight (468) were for uterine fibroids giving a prevalenceof 27.8%. Of this 468 surgeries, 406 (86.7%) were abdominal myomectomies while 13.3% had abdominal hysterectomies. Mean age was 36.63 ± 5.09 years. Range of parity was Para 0–3. Most were married, aged 30-35 years, nulliparous and had tertiary level of education. Menorrhagia was the most common presenting symptom and most of the symptoms had lasted for 1-3 years.

Conclusion: Uterine fibroid is one of the most frequent gynaecological problems in our environment and prevalence rate of 27.8% is very high. Surgical treatment remains the main treatment option.

Keywords: Uterine fibroids, socio-demographics, myomectomy, prevalence, clinical features.

1. INTRODUCTION

Uterine fibroids (UFs) also called fibromyomas or leiomyomas, are tumors of the smooth muscle and the connective tissue of the uterus.[1-3] These tumors are estrogen dependent and grow during the reproductive period with an incidence of approximately 70% in the general population.[2,4]It is a benign tumor and the most common uterine neoplasm occurring in more than 50% of women older than 30 years.[2,4] They are said to account for 3.2-7.6% of new gynecological cases.[5]The locations ofUterine fibroids include submucosal, intramural,

subserosal and pedunculated.[1-3]Several risk factors associated with uterine fibroids include Afro-American descent, nulliparity, long periods of secondary infertility, obesity, polycystic ovary syndrome, diabetes mellitus, hypertension, hormonal and genetic influences, pelvic infections.[1,3,5]The diverse symptomatology of fibroids can be attributed to size, number and location of the tumours.[6] The majority are asymptomatic.[3] Women with fibroids commonly present with menstrual disturbances, the most common being menorrhagia, probably followed by dysmenorrhea.[3,6]Intermenstrual bleeding is common, and if it occurs, it is more likely in those with submucous fibroid polyp.[6] Other common symptoms are the presence of an abdominal mass, with or without menstrual disturbances, pressure effects, subfertility.[1,2,6]

The diagnosis of uterine fibroid is often made clinically from the characteristic physical findings during an abdominal examination for those ones that are palpable per abdomen.[2,5] For others not palpable, ultrasound scanning can be used to make a diagnosis.[7] Other useful investigations include a haemoglobin concentration test.[1,7]Management options for uterine fibroids include expectant management, medical therapy, hysteroscopic myomectomy, endometrial ablation, abdominal myomectomy, laparoscopic myomectomy, and laparoscopic hysterectomy, uterine artery occlusion and focused ultra sound.[2,4,8] In Nigeria like in much of sub-Saharan Africa, laparoscopic surgeries are not common due to cost, and dearth of trained laparoscopic surgeons.[9,10]Also, medical treatment with gonadotropin releasing hormone agonists or progesterone receptor modulators is out of reach for the average African patient.[9] Therefore, abdominal myomectomy and hysterectomy remain common modes of treatment with abdominal myomectomy most preferred in many cases.[7,10]Abdominal myomectomy is a modality of treatment for large and symptomatic uterine fibroids in women under the age of 40 years, who are of low parity and desire to maintain their fertility or reproductive function, when the procedure is surgically feasible and there is a reasonably good chance of subsequent pregnancy.[9-11] Indications for abdominal myomectomy include the following; infertility secondary to uterine fibroids, symptoms such as recurrent pregnancy loss, dysmenorrhea, lower abdominal swelling, urinary frequency.[8-10]Others are persistent uterine bleeding despite medical therapy, excessive abdominal pain or pressure symptoms and sub serous pedunculated fibroids.[2,3,6,12]

Haemorrhage remains a very common complication during and after abdominal myomectomy and this explains the use of tourniquets during the procedure.[5,13,14] Other measures to minimize blood loss include; preoperative treatment with GnRH analogues, which reduces the vascularity of the tumor, use of synthetic vasopressin which causes vasoconstriction, use of Victor Bonney's specially designed clamp to reduce uterine artery blood flow, controlled hypotensive anaesthesia using sodium nitroprusside to reduce venous tone, use of uterotonic medications such as carbetocin, oxytocin, ergometrine, misoprostol, use of anti fibrinolytics, e. g. aprotinin, tranexamic acid.[3,14-17] Other complications associated with abdominal myomectomy could be intraoperative or postoperative.[12,18]Since abdominal myomectomy is the commonest and most preferred method of treatment of uterine fibroids, the study was to

determine the prevalence of uterine fibroid surgeries. It also determined the clinical presentation and surgical management options for uterine fibroids with emphasis on myomectomies at the Rivers State University Teaching Hospital (RSUTH).

2. METHODS

The study is a retrospective hospital-based descriptive study of 406 women with uterine fibroids who had abdominal myomectomy over a period of 5 years from 1st January, 2016 to 31st December, 2020 at Rivers State University Teaching Hospital, Port Harcourt. The hospital is a 256-bed tertiary health facility with 12 clinical departments, which offers in/out patient and emergency medical services. It is also a centre for the training of undergraduate medical students and other medically related courses. The hospital trains postgraduate doctors in all medical fields. Situated in Port Harcourt, the capital of Rivers State, it is a referral centre of the State and its neighbouring States including Bayelsa, Akwa-Ibom, Abia and Imo States.

A structured proforma was designed and used to extract data from gynaecological ward and operating theatre registers and the hospital medical records. Permission was obtained from the Head of the Department of Records for retrieval of the folders. Information included socio-demographic characteristics, clinical features and their duration on admission and types of surgery done. Detailed information on operative procedures is further maintained in the operation theatre register. Data was entered and analyzed using the statistical package for social sciences (SPSS) IBM version 25.0 (Armonk, NY). Frequency and percentages were calculated for the categorical variables. The study was approved by the Ethics Review Committee of the hospital.

3. RESULTS

A total of 1682 gynaecological surgeries were done over the study period. Four hundred and sixty eight (468) were for uterine fibroids giving a prevalenceof 27.8%. Of this 468 surgeries, 406 (86.7%) were abdominal myomectomies while 13.3% had abdominal hysterectomies. This is shown in figure 1 and the socio-demographics are shown in table 1. Mean age of the participants was 36.63 $\pm$ 5.09 years and the range was 25-50 years. Parity range was Para 0–3. Most (52%) were married, 291 (71.7%) were aged between 30-40 years, with age group 30-35 years (37.7%) slightly higher than age group 36-40 years (34.5%).Most of the women were nulliparous (81.8%) and had tertiary level of education (70.2%). Menorrhagia (69.7%) was the most common presenting symptom and most of the symptoms, (70%) had lasted for 1-3 years prior to presentation. These are shown in figures 2, table 2 and 3 respectively. Most of the women, 213 (52.5%) lost less than 500 mls of blood during the surgeries.

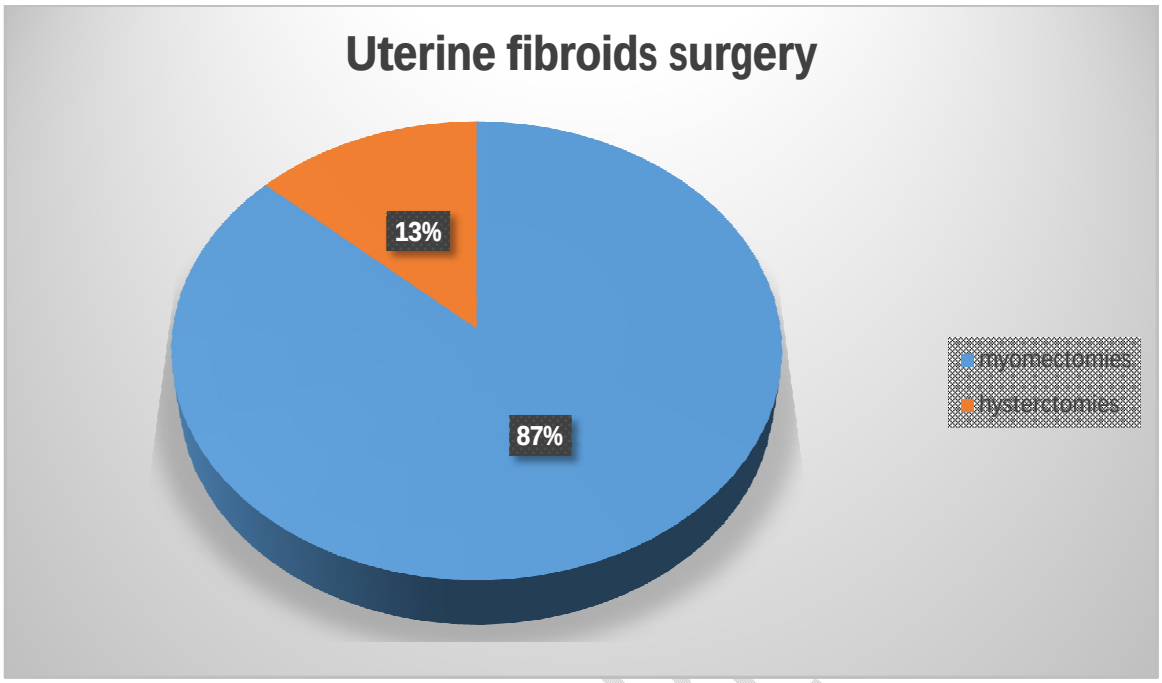

Fig 1: Surgical options of uterine fibroids

TABLE 1: Socio-demographic characteristics of participants

Variable	Frequency	Percentage (%)
Age (years)		
<30	26	6.4
30-35	151	37.2
36-40	140	34.5
>40	89	21.9
Total	**406**	**100**
Parity		
0	332	81.8
1	55	13.6
2	16	3.9
>2	3	0.7
Total	**406**	**100**

Marital status		
Married	211	52.0
Single	195	48.0
Total	**406**	**100**
Educational Status		
Primary	16	3.9
Secondary	105	25.9
Tertiary	285	70.2
Total	**406**	**100**
Religion		
Christian	**404**	**99.5**
Moslem	**2**	**0.5**
Total	**406**	**100**

TABLE 2: TABLE SHOWING THECLINICAL PRESENTATION OF PARTICIPANTS

Clinical presentation	**Frequency**	**Percentage(%)**
Abdominal swelling	80	19.7
Infertility	33	8.1
Menorrhagia	283	69.7
Menorrhagia/Abdominal swelling	10	2.5
Total	**406**	**100**

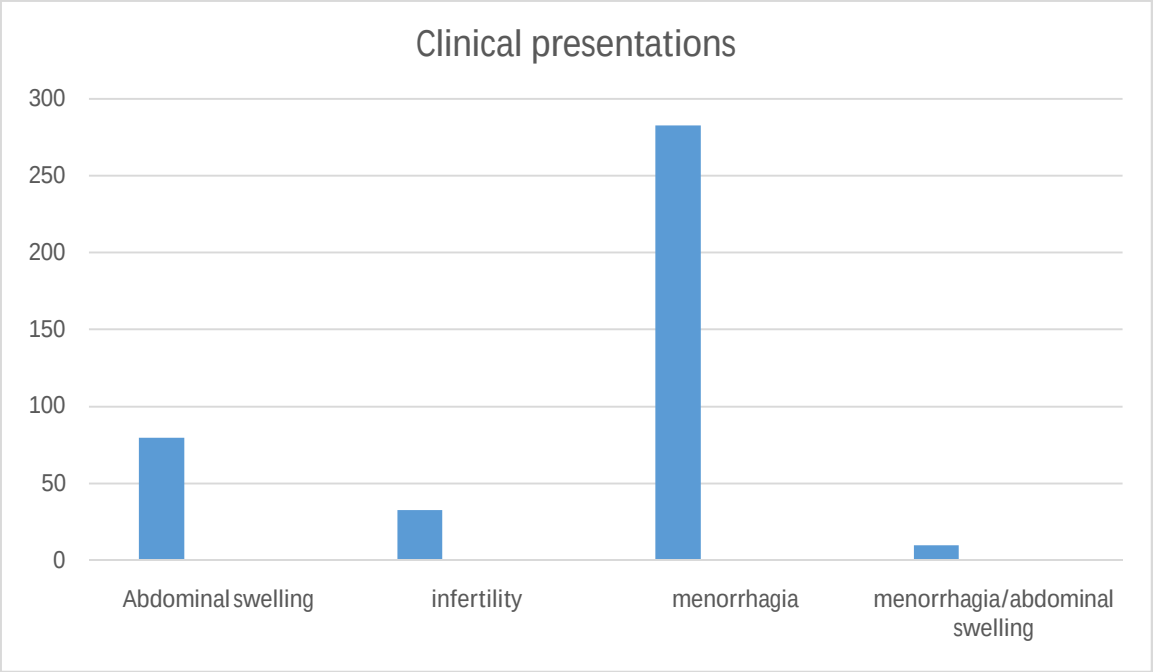

Fig 2: Clinical presentations of the participants

Table 3: Duration of symptoms

Duration	Frequency	Percentage (%)
<1year	38	9.4
1-3years	284	70
4-6years	72	17.7
>6years	12	2.9
Total	**406**	**100**

4. DISCUSSION

The prevalence of uterine fibroids in this study was 27.8%. This is similar to 27.4%from a study by Omole-Ohonsiet al.[8] Isah AD et al and Omotoso et al had 21.3% and 42.3% respectively. [19,20]Other prevalence of uterine fibroids from other studies that got theirs from total number of gynaecological clinic attendees were 16.4%, 7%, 10.7% ,6.4% and 10.7% respectively.[9,19,21-23] The differences in these figures may probably be because most uterine fibroids are asymptomatic and not all symptomatic ones seek care in the hospitals.[21] Abdominal myomectomy is the most common surgical method of treating uterine fibroids which has remained a major gynaecological problem.[6,8] It is said to be the main stay of treatment for those women who want to preserve their reproductive capacity.[1,4] In the study centre, a total of 468 patients were treated surgically for uterine fibroids, abdominal myomectomy was found to

have a higher prevalence of 86.7% and hysterectomy, a lower prevalence, (13.3%). Myomectomy findingin this study is similar to 86.5% by Madunatu CM et al, 83.3% by Isah AD et al and 90.3% by Ezeama CO et al [9,19,23].The explanation for this could be attributed to the non-wide spread use of newer modalities for non-surgical management of uterine fibroids in Nigeria. The higher prevalence of abdominal myomectomy in our study could also be explained by the fact that most of our women were nulliparous and primiparous and probably desired to retain their uterus for psychological, reproductive and cultural reasons even after completing their family size. Myomectomy, a conservative surgery more commonly done in our society is reserved for younger and low parity women while those with higher parity and have completed their family size have hysterectomy.[21]

The number of patients in this study is dissimilar to 204 cases in Ilorin,[5] 135 cases in Ibadan,[15] 368 cases in Enugu,[8]and 150 cases in Congo.[13] This may be attributed to the reduced use of obstetric services and the patronization of traditional health practitioners in these centres. Other studies which recorded a lower number of cases like in Kano (105 cases),[8] could be due to early marriage with consequential higher parities and Owerri (100 cases),[10] which was conducted in a secondary health facility with minimal patients load and limited expertise.

The mean age of the patients from this study was 36.63 years. This is similar to other studies done in Nigeria (35.74 years) and the Republic of Congo (36.5 years).[5,8,13]The highest frequency (37.2%) was seen in the 30-35 years age group, while the least frequency (6.4%) was amongst the below 30 years age group. These findings were also seen in other studies.[4,9,19,22,24] This could be explained by the fact that uterine fibroids occur most commonly in the 3^{rd} -4^{th} decade of the woman's life.[3]Nulliparity or relatively infertile women are strongly linked to uterine fibroids. In this study, 81.8% were nulliparas followed by 13.6% primiparas buttressing this fact. Increased parity as seen in our study has been found to be protective from uterine fibroids.[21,25] This finding is similar to findings from other studies.[9,19,21,23,26] but differs from a study done in Northwestern Nigeria where there is early marriage and childbearing.[8]

Novak and Woodruff documented that most women with uterine fibroids are single explaining that the longer time a woman remains single or not pregnant, the more there is stimulation of the uterine muscles by the estrogen during menstrual cycle.[21] This is not our observation in this study and another study by Ezeama et al[9] where most were married and probably presenting with infertility that brings them to the hospital most of the time.Majority of the women had tertiary level of education as seen in other studies.[9,19,21,23] This also shows that the women are in pursuit of education before settling down for marriage.It is not surprising that almost all the women (99.5%) were Christians because most people that live in Niger Delta, Nigeria are Christians.

Most women in this study presented to the hospital when the symptoms were 1-3 years in duration indicating a delay in presentation resulting in most coming down with abdominal

swelling. Ezeome et al also showed similar findings.[21]In our study, most women presented with menorrhagia followed by abdominal swelling and infertility in that order. This finding is similar to findings of other studies.[8,9,10,12,19,27].Findings in other studies showed that abdominal swelling was the commonest presentation.[4,5,9,21,23,28,29] Abdominal pain following the abdominal swelling from uterine fibroids is usually due to large tumour size and also due to degeneration. Uterine fibroids are associated with menorrhagia because there is increased surface area of the endometrium, congestion and distortion of surrounding blood vessels, poor uterine contractility, defective development of the endometrium and increase in blood flow to the uterus.[23]Third most common presentation in our study was infertility. It is not surprising that majority of our women had myomectomy due to the premium value placed on childbearing in our environment despite the huge sizes even up to 36 weeks size.

5. CONCLUSION AND RECOMMENDATION

Uterine fibroid is one of the most commongynaecological problems in our environment, mainly requiring surgical intervention when symptomatic. It usually occurs in women of low parity and in their third and fourth decades of life. Management options should be individualized and the patient's future fertility should be considered. Abdominal myomectomy is a very common surgical intervention, hence the need to train more doctors on the procedure in order to proffer care to the increasing number of patients. Also skill acquisition on recent advances in care by the gynaecologists is encouraged in this environment because it is obviously missing in our treatment options. There should be awareness program to educate the women on the symptoms and the need for early presentation.

Ethical approval: The study was approved by the hospital's Ethics Review Committee.

Study limitations: The study is retrospective and sample size is small. It is also a single centre/hospital based study and results cannot be generalized to the whole population.

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