



Strategic Regimen in the Management of Uterine Fibroid and It's Complications on Women in Abia State, Nigeria

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

Uterine fibroid poses a lot of threat to women even in pregnancy presenting with lower abdomen pain and excessive menstruation, bearing down sensation in the pelvis, infertility, vomiting, fever, and leucocytosis. Before the treatment of uterine fibroid commences, a diagnosis must be made. **Objective:** To ascertain various management and post operation complications in uterine fibroid on women in Nigerian Christian Hospital Nlagu. **Methodology:** A total of 60 participants were included and recruited in the study particularly with women who had their operation done in the same hospital. The files of the women were monitored from time of admission till discharge. **Results:** The study showed that surgery is the most common method of treatment of uterine fibroid. Out of the total respondents, 69% of the patients had myomectomy, 30% of the patient had total abdominal hysterectomy with or without salpingo-oophorectomy while 1% had vaginal hysterectomy. None of the patients opted for the use of drugs, this could be due to the fact that surgical treatment is the most effective method for the management of uterine fibroid. Since the p-

value = 1.000 is greater than the 0.05 level of significance, we accept H_1 , and concluded that, the treatment option for uterine fibroid is not significant.

Conclusion: The most common treatment method for uterine fibroid is myomectomy and the preference for myomectomy is largely due to the strong reproductive desire of women and the need to keep their fertility after surgery.

Keywords: Fibroid; medications, pelvic pain, oestrogen, hysterectomy, urinary tract infection.

1. INTRODUCTION

Treatment of fibroid depends on symptoms and severity of the symptoms, in most cases, treatment may not be necessary particularly if the woman has no symptoms, has small tumor or has gone through menopause. Medical treatment includes; Non Steroidal anti inflammatory drugs, oral contraceptives (birth control pills), gonadotropin releasing hormone agonist etc. The oral contraceptive pills are commonly use in women with fibroid, often decrease perceived menstrual blood flow and help with pelvic pain. Nonsteroidal anti inflammatory agents such as ibuprofen have been shown to relieve pelvic pain associated with fibroids. Gonadotropin releasing hormone (GnRH) agonist is medications that act on the pituitary gland to decrease oestrogen produced by the body. The decrease in oestrogen causes fibroid to decrease in size. This type of medication often is used prior to surgery to shrink the fibroid, to decrease the amount of blood loss during surgery or to improve pre operative blood count (Mauro *et al*, 2015). The anti hormonal drug Ru-486 (Mifepristone) has also been shown to reduce fibroid size by about half [1]. This drug has also been shown to reduce pelvic pain, bladder pressure and lower back pain associated with fibroid. Myomectomy is the surgical removal of benign tumor of muscle tissues in the uterus, it is an operation of choice for all women under the ages of 40 years who required surgery but wish to reserve their reproductive functions. The size and number of the myomata do not prevent myomectomy. Hysterectomy is a surgical removal of the uterus, in young women still bearing children, this may not be advisable because myoma may not contraindicate pregnancy and usually may not cause difficulty. Diagnosing this condition must be made through history taking of past and present illness, physical examination which includes: palpation, percussion, and auscultation [2-5]. Auscultation will reveal no fetal heart beat or fetal movement. A definitive diagnosis is made through an abdominal pelvic ultrasound scan. Hysterectomy is the most commonly performed surgical

procedure in the treatment of fibroid for post menopausal women and is considered a cure depending on the size of the fibroid, hysterectomy can be performed with incisions through the vagina or abdomen [6]. Uterine Artery Embolization is an innovative approach that involves the insertion of a catheter (small tube) into an artery of the leg (femoral artery) using special x-ray video to trace the arterial blood supply to the uterus, then clotting the artery with tiny plastic or gelatin sponge particles like the size of a grain of sand. This material blocks blood flow to the fibroid and shrinks it (Akinyemi, 2016). Post operative complications of Uterine fibroid includes prolonged post operative pain, pyrexia, anaemia, wound breakdown, urinary tract infection, pelvic abscess, intestinal obstruction, bladder injury, amenorrhea, oligomenorrhea and asherman's syndrome [7].

A woman who has given birth to a large family is far less likely to develop myomata than a woman who has never been pregnant or have had only one child. Increased risk for myomas is associated with early menarche and older age of the first term of pregnancy [8-11]. The cause of this is thought to be increased exposure to menstrual cycles during a nulliparous woman's lifetime, uninterrupted by pregnancy and lactation. A first pregnancy late in life might also have little effect because some tumors could have grown too large to be eliminated by remodeling. Thus, the greatest protective effect of parity occurs for pregnancies during the mid-reproductive years. The protective effect of second and subsequent pregnancies would depend upon the time intervals between previous pregnancies. If the intervals were very short, they would provide little additional protection. Long intervals might also have little protective effect because the fibroids that develop after a previous pregnancy might have had time to grow beyond a size susceptible to remodeling. A pregnancy that occurs while fibroids are small would be protective, whereas pregnancies occurring before fibroid development or after the tumors reach some critical size would not be protective.

The timing of fibroid development is not known, but clinical data indicate that fibroids are rare in early reproductive years.

1.1 Effect of Uterine Fibroid on women of Child Bearing Age

Pain and Discomfort: In some cases, there is severe aching pain in the lower abdomen and over the sacrum. The pain could be as a result of vascular congestion and is more severe if there is associated pelvic inflammatory disease. It is often worse before or during menstrual period but may be continuous or occur intermittently at any time during cycle. Some patients with fibroid complain of dyspareunia (Painful or difficult coitus) which may be due to shortening or distortion of the vagina by fibroids low in pelvic, or to adherent prolapsed tubes and ovaries in the pouch of Douglas or due to tender utero-sacral ligaments associated with chronic cervicitis [12].

Uterine Bleeding: Many patients with uterine fibroid complain of excessive menstruation and the passage of clots. The period may be prolonged, profuse or both. If bleeding is severe, chronic anaemia which must be treated before surgery is done. The cause of the uterine bleeding may probably be as a result of functional disturbance in the large oedematous ovaries which is often associated with fibroid [13].

Pressure in the pelvis: Symptoms of pressure are not very common even when adherent fibroids are impacted in the pelvis. There is sometimes a sense of weight in the lower abdomen or a bearing down sensation in the pelvis [14].

Constipation: Complaints of Constipation are usually coincidental, urinary symptoms may occur less often than might be expected with the large fibroid seen in the tropics. Frequently, this may be due to reduction in the bladder capacity by fibroid [15].

Abortion: This is caused by submucous fibroid because the endometrium is thinned out over the tumor and if the ovum is implanted in this situation, it may not obtain the exquisite nutrition because of faulty blood supply to the chorio decidual space [16].

Infertility: According to Ekine et al. [17] infertility may be caused by submucous fibroid distorting the cavity of the uterus. According to Heineman and Mohnes (2017), fibroid undergoes degeneration during pregnancy causing severe abdominal pain and tenderness over the tumor as well as vomiting, fever, and leucocytosis. Fibroid can also lead to malpresentation of the fetus, exaggerated pressure on the pelvic, torsion of a sub serous fibroid and premature

rupture of the membrane followed by prolapsed cord or premature labor.

1.2 Health Belief Model and Application in the Management of Uterine Fibroid

According to Komolafe [18], the Health Belief Model was developed in the early 1950's by social scientists Kegels and Rosenstock at the US public Health service in order to understand the failure of people to adopt disease prevention strategies or screening tests for the early detection of disease. The health belief model suggests that a person's belief in a personal threat of an illness or disease together with the recommended health behavior or actions will predict the likelihood the person will adopt the behavior. Uterine fibroid is the most common benign tumor of the uterus placing women at a high susceptibility. Uterine fibroid if not diagnosed early and treated promptly may pose serious threat such as infertility and spontaneous abortion to the woman. Most times when a woman having uterine fibroid is asymptomatic, she may not perceive the fibroid as a threat until complications arises. The benefit of early diagnosis of uterine fibroid and prompt management with medication or surgery will help reduce the threat uterine fibroid poses to the woman. The woman will only accept the recommended health actions such as myomectomy or hysterectomy if it was perceived as beneficial. Barriers such as financial constraints, fear of surgery, fear of losing the uterus through hysterectomy and limited knowledge of the risk uterine fibroid poses can reduce the pace at which treatment goes. Actions should be taken to intensify the awareness of uterine fibroid amongst women of child bearing age, the need for early diagnosis, prompt intervention and adequate provision of health information concerning uterine fibroid [19,20]. With proper information and actions taken to ensure that women are aware of the risk, diagnosis and treatment options for uterine fibroid, the woman will have confidence in choosing which treatment option is best for her.

2. MATERIALS AND METHODS

This was a retrospective study that included all the women that were diagnosed of fibroid and was treated through medical and or surgical methods. Who also were nursed in the same hospital and discharge through the medical protocol at Nigerian Christian Hospital Nlago,

Abia state. South east Nigeria. The respondents were women of child bearing age and above.

2.1 Study Area

The hospital is located in Obingwa Local Government Area in Abia State Nigeria in the South East. It is owned by the church of Christ Mission and managed by the foreigners from United State of America for the past 40 years. They have different wards, units and operation theater and perform different medical and surgical treatment.

2.2 Study Population

A total number of 80 respondents were recruited in this study using the documented history and out of this, respondents' treatment ranges from myomectomy, total abdominal hysterectomy, bilateral salpingo-oophorectomy, right and left salpingo-oophorectomy, vaginal hysterectomy and medical medication in Nigerian Christain Hospital Nlangu Onichangwa within 36 months.

2.3 Inclusion Criteria

All the women diagnosed and treated in the same hospital within 36months and during the study time. Who were counseled by the Nurses and Doctors for several weeks on the treatment options and allowed to make their choice before consent form was signed.

Exclusion: Any woman who was not diagnosed of the disease and not captured within research study period.

2.4 Sample Size

60 patients represented the target population using the Taro Yamani's formula for determining the sample size from the target population. The Taro Yamani's formula is: $n = N / 1 + N(e)^2$ $n =$ sample size $N =$ Population size (Target population), $e =$ Level of precision or sampling error which is 0.05, $1 =$ Constant $n = 70 / 1 + 70(0.05)^2$ $n = 70 / 1.175$ $n = 60$.

2.5 Procedure for Data Collection

The researchers informed the management of the hospital officially, stating the reasons for the research and the specific time needed to conduct the study. On the approval of the ethical consent after three months. The proforma for the data

collection was sent to the nurses and hospital recorders to retrieve the data for the study in order maintain confidentiality. The collection, collation and analysis of data took five 10months. The proforma comprises of social demographic data, eg, age, educational level, parity and marital status while the other section got the data on admission, operation type, medications and Post operation complications.

2.6 Method of Data Analysis

SPSS statistical methods were used to analyze the data, tables, and calculations in percentage and hypothetical analysis was adopted.

3. RESULTS

A total of 60 patients' data was collected and analyzed and presented on the charts and tables below:

Table 1 showed the distribution of client's age in which age range 30-39 years has the highest frequency of occurrence of uterine fibroid with 60%, Age group 40-49 years recorded 23% while the lowest frequency of occurrence is amongst clients within age group 20-29 years which recorded 17%. There was no occurrence of uterine fibroid amongst age group 10-19 years.

Table 2 indicated that the incidence of uterine fibroid was higher among women, occurring at a frequency of 35 and a rate of 58%. Out of this, 18% of the women had only one child, 17% had 2-5 children, while 7% had 6-10 children.

Table 3 indicated that majority of the patients had myomectomy (69%). 7% had total abdominal hysterectomy alone, 17% had total abdominal hysterectomy + Bilateral Salpingo-oophorectomy, 3% had total abdominal hysterectomy + Right salpingo-oophorectomy, 3% had total abdominal hysterectomy + Left salpingo-oophorectomy. Only 1% had a vaginal hysterectomy while none of the patients used drugs.

Table 4 showed that most of the patients had no post-operative complications (47%). Most common post-op complication was pyrexia which recorded 21%, patient that had anaemia after surgery was 10%, patient with Amenorrhoea and Oligomenorrhoea were 7% and 12% respectively.

Table 1. Showed the age of the respondents

Age group (Years)	Frequency	Percentage (%)
10-19	-	-
20-29	10	17
30-39	36	60
40-49	14	23
Total	60	100%

Table 2. Showed the incidence of fibroid among the Parity

Parity	Frequency	Percentage (%)
No child	35	58
A child	11	18
2-5 children	10	17
6-10 children	4	7
Total	60	100%

Table 3. Types of surgery

Drugs/Surgeries	Frequency	Percentage (%)
Myomectomy	41	69
Total Abdominal Hysterectomy alone (TAH)	4	7
Total Abdominal hysterectomy + bilateral salpingo-oophorectomy (TAH+BSO)	10	17
Total Abdominal hysterectomy + Right Salpingo-oophorectomy (TAH + RSO)	2	3
Total abdominal Hysterectomy + Left Salpingo- oophorectomy (TAH +LSO)	2	3
Vaginal hysterectomy	1	1
Drugs	-	-
Total	60	100

Table 4. Showed complications during surgery

Post-op complications	Frequency	Percentage (%)
Pyrexia	13	21
Anaemia	6	10
Amenorrhea	2	3
Oligomenorhea	4	7
Others	7	12
Death	-	-
47	28	
100%	60	

Hypothesis 1:

H₀: uterine fibroid is associated with age

H₁: uterine fibroid is not associated with age

One-Sample Z: Frequency Test of mu = 15 vs not = 15

The assumed standard deviation = 15.19

Variable N	Mean	St Dev	SE Mean	95% CI	Z	P
Frequency 4	15.00	15.19	7.59	(0.11, 29.89)	0.00	1.000

Conclusion: Since the p-value = 1.000 is greater than the 0.05 level of significance, we accept H₁, and concluded that, uterine fibroid is not associated with age.

Hypothesis 2:

H₀: The treatment option for uterine fibroid is significant.

H₁: The treatment option for uterine fibroid is not significant.

One-Sample Z: Frequency Test of mu = 10 vs not = 10

The assumed standard deviation = 15.53

Variable	N	Mean	St Dev	SE Mean	95% CI	Z	P
Frequency	6	10.0	15.53	6.34	(-2.43, 22.43)	0.00	1.000

Conclusion: Since the p-value = 1.000 is greater than the 0.05 level of significance, we accept H₁, and conclude that, the treatment option for uterine fibroid is not significant.

4. DISCUSSION

This study compares favorably with other findings and has not shown any huge difference with respect to incidence, age of occurrence, treatment and complication of uterine fibroid. Peak age of occurrence of uterine fibroid was noted in the research study and is specifically within the age range of 30-39years with 60%. Occurrence rate of 23% was recorded amongst women within the age of 40-49years and the least incidence occurred among women within the age group of 20-29years (17%). This corresponds with the study carried out by Okogbo et al. [15] on the prevalence of uterine fibroid in south western Nigeria; a clinical study of the presentation and management outcomes, in which the prevalence of uterine fibroid was 67.1% among women in the age group of 30-39years and decreased to 32.9% in the age group of 40-49years. Age below 20years recorded 0%.In agreement with this research findings, Okogbo et al. [15] revealed that the high incidence manifested in the age group of 30-39years is due to the fact that symptoms manifest higher in this age group prompting the need to seek medical interventions. This also correlates with the view of Ukwueya et al. [21] on the knowledge of uterine fibroid which revealed that more than half of the cases of uterine fibroid are found between the age of 30-40years .The study showed that surgery is the most common method of treatment of uterine fibroid. This could be due to the fact that surgical treatment is the most effective method for the management of uterine fibroid as stated by Garba [22]. The higher incidence recorded in myomectomy is seen mostly in women who still

want to retain their fertility after the surgery. Findings from this research study also revealed that 47% of the patient that underwent surgery had no post operative complications, this could be due to the expertise of the gynecologist and surgeons as well as adequate care of patients before, during and after the surgeries. Amongst those with minor post operative complications, pyrexia was recorded higher with 21% occurrence, anemia was 10%, amenorrhea accounted for 3%, and oligomenorrhea accounted for 7% while other complications accounted for 12%. No death due to uterine fibroid or post operative complication was recorded within the study period .This corresponds with the research study conducted by Olatinwo and Offiong [23], on Analysis of surgically treated cases of uterine fibroid in university of Ilorin teaching hospital Nigeria which revealed that post operative pyrexia and anemia were the commonest post operative complications of myomectomy and hysterectomy. The most common method of treatment of uterine fibroid is surgery and it was recorded that 69% of the patient had myomectomy, 30% had total abdominal hysterectomy with or without salpingo-oophorectomy while 1% had vagina hysterectomy. This finding is in line with the study conducted by Omole-Ohonsi [6], on the surgical management of uterine fibroid at Amino Kano Teaching hospital which revealed that 61.9% of women with uterine fibroid had abdominal myomectomy while 38.1% of the patients had hysterectomy. This also corresponds to the view of Khan et al. [24] that myomectomy is the operation of choice for all women under the age of 40 years who required surgery but wish to reserve their reproductive

functions. The most common treatment method for uterine fibroid is myomectomy and the preference for myomectomy is largely due to the strong reproductive desire of women and the need to keep their fertility after surgery [25-27]. Hysterectomy is mostly done by women who has attained menopause or close to menopausal age or women with multiple fibroid and the risk for the tumor to be cancerous is suspected [28-32].

5. CONCLUSION

Most of the women that accepted the treatment options for uterine fibroid, must have perceived the threats and benefits of carrying out the surgeries for the treatment of Uterine fibroid. It was also noted that early diagnosis of uterine fibroid aids prompt intervention, and the most common treatment method was myomectomy and hysterectomy. And in this study, unlike other studies as reported by some workers, we conclude that uterine fibroid incidences in Nigeria Christian Hospital, Nlagu is not associated with age.

ETHICAL APPROVAL AND CONSENT

The researchers collected a permission letter from the Obingwa Local Government Chairman to maintain the cultural ethics, the primary health care development agency in Abia State, Nigeria and finally from the hospital. Respondents' written consent has been collected and preserved by the author(s).

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Strissel EA, Nowak RA, Kurachi OG. New concepts in the treatment of uterine Leiomyoma. *Obstetric Gynaecology*. 2012; 10(107):78-80.
2. Agboyeji AP, Ijaiya MA. Uterine fibroids; A ten year clinical review in Ilorin, Nigeria. *Journal of Medicine*. 2014;2(11): 16-17.
3. Baird DD, Dunson DB, Hill MC, Cousin D, Schectman JM. High cumulative incidence of uterine leiomyoma black and white women. *Ultrasound Evidence. American Journal of Obstetric Gynaecology*. 2015;7 (18):100-104.
4. Choe S, Lee J. Incidence, aetiology and epidemiology of uterine fibroids. *Clinical Obstetrics and Gynaecology*. 2014;22(4): 571-580.
5. Cramer SF, Patel A. The frequency of uterine leiomyoma. *American Journal of Clinical Pathology*. 2012;94(10):435-438.
6. Omole-Ohonsi A. Surgical management of uterine fibroid at Aminu Kano Teaching Hospital. *Obstetrics Gynaecology Journals*. 2011;20:280-292.
7. Stewart RK. Regulation of progesterone of proliferating cell by human uterine leiomyoma. *Journal of Clinical Endocrinology*. 2012;83(6):21-29.
8. Flake GP, Anderson J, Dixon D. Etiology and pathogenesis of uterine leiomyomas: A review of environmental health perspective. 2016;8(111):1037-49.
9. Heinemann K, Moher S. Benign gynaecological tumors; estimated incidence. Results of the German cohort study on women's health. *European Journal of Obstetrics Gynaecology*. 2017; (28):107-118.
10. Horace MF, Joseph F. *Progress in obstetrics and gynaecology*. Churchill Livingstone, London; Elsevier. 2012; 277-286.
11. Hopkins BN. Role of medical management of uterine leiomyomas. *Journal of Clinical Obstetrics and Gynaecology*. 2016;34 (8785-90).
12. Payson M. Epidemiology of myomas obstetrics gynaecology. *Clinical North American*. 2011;31(33):1-11.
13. Deeway DJ, Syrop CH, Nygaard IE, Davis WA. Natural history of uterine polyps and leiomyomata. *Journal of Obstetric Gynaecology*. 2017;21(3):37-39.
14. Sato FM. Fertility and uterine size among Asian women underlying hysterectomy for leiomyomas. *International Journal of Women's fertility*. 2013;23(4):347.
15. Okogbo FO, Ezechi OC, Ezeobi PM. Uterine leiomyomata in South Western Nigeria: A clinical study of presentation and management outcome. *Journal of African Health Science*. 2011;11(27): 71-80.
16. Terry KL. Reproductive characteristics and Risk of uterine Leiomyomata. *Fertility sterility*. 2017;94(2):270-276.
17. Ekinne SO, Fasuba O, Nyikam A. Uterine fibromata in Ilesha, Nigeria. *Niger Medical Practitioner*. 2016;9(18):191-197.

18. Komolafe LA. Age-specific incidence rates for self reported uterine leiomyomata in the black women's health study. *Obstetric Gynaecology*. 2011;25(10):56-58.
19. Kempson RL. Endometrial stromal and mixed mullerian tumors of the uterus. *Medical Pathology*. 2011;2(13):320-332.
20. Lumsden OH. *Diagnostic histopathology of tumors*. (3rd Ed.). 2017;692-694.
21. Ukwanya V, Madumezia N, Afolayan O, Thomas W. Prevalence of uterine fibroid in a south-western Nigerian Population: A sonographic study. *Journal of Clinical Anatomy*. 2014;15(14) :24-29.
22. Garba IA. Surgical management of uterine fibroid at Aminu Kano Teaching Hospital. *Journal of Basil Clinical Science*. 2016;13(50):31-34.
23. Offiong OU. Uterine fibroid in a tertiary health centre South East Nigeria. *Niger Journal of Medicine*. 2015;17(4):47-51.
24. Khan AT, Shemar M, Gupta JK. Uterine fibroid current perspectives. *International Journal of Women's health*. 2014;19(29): 222-231.
25. Marinho JL. Leiomyoma and menstrual cycle characteristics in a population based cohort study. *Journal of Human Reproduction*. 2018;19(4):235.
26. Ryan GL, Syrup CH, Van VO. Epidemiology and natural history of benign uterine mass lesion. *Clinical Obstetric Gynaecology*. 2015;48(3) 328-342.
27. Wallach EE. An overview of development. Clinical features and management. *Journal of Obstetric Gynaecology*. 2014;10(104): 393-401.
28. Moore AB, Flake GP. Association of race, age and body mass index in uterine fibroid. *Journal of Reproductive Medicine*. 2013;5(53):90-96.
29. Ogedengbe OK. *Uterine fibroid in okonofua, contemporary obstetrics and gynaecology for developing countries*. (1st Ed). Intec Printers Limited, Ibadan; 2014.
30. Palmer BW, Taylor HS, Pike MC. Effect of submucosal uterine leiomyomas. *Fertility Sterility*. 2011;93(6): 202-207.
31. Parker WH. Etiology, symptomatology and diagnosis of uterine myomas. *Fertility Sterility*. 2012;7(87):725-736.
32. Sankaran S. Medical management of fibroid. *Journal of Obstetrics Gynaecology*. 2012;22(65) :52-58.

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