

Gynecology & Reproductive Health

Prevalence, Clinical Presentation and Treatment of Uterine Leiomyoma at Federal Teaching Hospital, Katsina: A Four-Year Review

Dr. Lawal Abdulfattah Mohammed*, Dr. Nsima David Etukuto and Dr. Ibrahim Habib Muhammad

Obstetrics and Gynaecology Department, Federal Teaching Hospital, Katsina.

***Correspondence:**

Dr Lawal, Abdulfattah Mohammed, Obstetrics and Gynaecology Department, Federal Teaching Hospital, Katsina, Tel: +234 8036193138.

Received: 23 Aug 2026; **Accepted:** 27 Sep 2026 **Published:** 06 Oct 2026

Citation: Lawal Abdulfattah Mohammed, Nsima David Etukuto, Ibrahim Habib Muhammad. Prevalence, Clinical Presentation and Treatment of Uterine Leiomyoma at Federal Teaching Hospital, Katsina: A Four-Year Review. Gynecol Reprod Health. 2026; 10(10): 1-5.

ABSTRACT

Uterine leiomyoma (uterine fibroids) is the commonest tumor of the female pelvic organs and tends to grow to unsightly sizes in our environment.

Study Objectives: *The objective of this study was to evaluate the prevalence, sociodemographic variables, presentation and management of uterine fibroids at Federal Teaching Hospital (FTH), Katsina.*

Study design: *This was a retrospective study of all cases of uterine fibroids managed at the gynaecological department over a four-year period (January 1st 2009 and December 31st 2012).*

Results: *One hundred and sixty-nine (169) cases of uterine fibroids were managed out of 2265 gynaecological admissions, with prevalence rate of 7.5%. 81.07% of patients were in their 3rd and 4th decades of life, with 46.75% being nulliparous while 11.83% were grand multiparous.*

The commonest presentation was menstrual irregularities (61.54%), followed by lower abdominal swellings (23.67%), lower abdominal pain (20.19%) and infertility (13.02%). 36.70% presented with uterine mass of 20 weeks or more. Most (83.22%) of patients had myomectomy only, and 2.68% had total abdominal hysterectomy only. Of those who had myomectomy, multiple and single uterine incisions were made in 45.18% and 33.13% of cases, respectively. The endometrium was breeched in 16.57% of cases, while 23.67% required blood transfusion.

The post operative complications were anaemia (43.33%), pyrexia (16.66%), and wound infection (6.67%).

Surgery remains the main stay of management of uterine fibroids (88.2%), with the desire for future fertility being the major determinant of the type of surgery offered.

Conclusion: *The prevalence of uterine leiomyoma is 7.5%, with menstrual irregularity as commonest mode of presentation. The mainstay of management was myomectomy, of which 16.6% had endometrium breeched. Postoperative anaemia was the most frequent complication.*

Keywords

Leiomyoma, Prevalence, Management.

Introduction

Uterine leiomyomas are benign tumours of the uterus composed of

smooth muscles and varying amounts of connective tissues [1,2]. These neoplasms are variously referred to as leiomyoma, myoma and fibroids among others. It is the commonest tumour of the female pelvic organs, present in 20-50% of women over 30 years of age but only 20% will be symptomatic [1-4].

The aetiology is unknown. It is believed to originate from somatic mutations in myometrial cells resulting in progressive loss of growth regulation [1,3]. Cytogenetic aberrations determines their sizes, with translocations between chromosomes 12 and 14 leading to large myomas while small leiomyomas were associated with deletions of the long arm of chromosome 7 [1,2].

Leiomyomas are hormone sensitive, developing during the reproductive years and regresses after menopause. The main hormones implicated were oestradiol and progesterone, with their receptors being increased in leiomyomas and their effects mediated by growth factors [1].

Leiomyomas are 3-9 times more common in blacks than in Caucasians [4]. Women of African descent living elsewhere do not appear to have as high incidence as those in the continent, an indication that diet and other environmental factors may contribute to their development [1]. There is often a family history of fibroids and it is postulated to be associated with a higher prevalence of pelvic infection [5,6].

Onset of menstruation before the age of 12, being overweight, nulliparity and consumption of red meat are risk factors, whereas smoking and consumption of green vegetables are protective [6,7]. Data on whether oral contraceptive is associated with an increased risk of leiomyomas is conflicting. Although the Nurses' Health Study reported a slightly increased risk when oral contraceptives were first used in early teenage years, others found a reduction of about 17% for each 5 years of oral contraceptive use [8,9].

The sizes of uterine leiomyomas are variable, ranging from tiny to very large. They may be single or multiple and anatomically may be subserous, intramural or submucous [4,9]. The tumours usually arise in the body of the uterus or less commonly in the cervix and other pelvic structures. They are characteristically firm in consistency, but may be soft and cystic as a result of degeneration or hard due to calcification [6,10].

They are usually asymptomatic, which is unrelated to their sizes, but common symptoms include abnormal uterine bleeding, abdominal mass, abdominal discomfort, pressure symptoms and infertility [6,9-12].

The diagnosis of uterine fibroid is mainly clinical but ultrasonography can be used to locate the sites, number and sizes of fibroids [1-3]. Hysterosalpingography is used to exclude the presence of submucous fibroids, pre-existing tubal blockage and also for medicolegal reasons. Intravenous urography is used to exclude any distortion in the course of the ureters and the presence of hydronephrosis [2,9].

The management of uterine leiomyoma could be conservative, medical or surgical (myomectomy or hysterectomy). Newer approach includes conservative surgical approach and medical manipulation [4,9]. The option applied depends on the associated

symptoms, age and reproductive status.

When myomectomy is contemplated, preliminary diagnostic curettage may be done to exclude presence of small submucous myomata and endometrial hyperplasia [2].

Minimizing blood loss and prevention of post operative adhesions are the two main challenges associated with myomectomy [2,7,9].

Hysterectomy is done in patients who have completed their family size. It is the "gold standard" for treatment of fibroids [1]. It is associated with less morbidity and eliminates risk of recurrence [9]. The main stay of management in developing world is hysterectomy and myomectomy [12].

Conservative surgical techniques includes hysteroscopic resection of small submucous fibroids or polyps using resectoscopes, scissors or electrocautery, as well as laser myomectomy/ myolysis using CO2 and Nd:YAG. These techniques confers less morbidity, reduces post-operative adhesion, better haemostasis, preservation of endometrial cavity and hence improved reproductive performance [9,13,14].

Medical treatment can be used pre-operatively to minimize blood loss, as primary treatment for perimenopausal women or as palliative treatment for women who are not fit for surgery [2,9,13].

Uterine artery embolization and bilateral uterine artery ligation offers promising results [15,16]. Bilateral uterine artery ligation is suitable for low resource settings. It reduces menstrual blood loss, uterine and fibroid volume to a level comparable to uterine artery embolization [16].

Aims and Objectives

This study was designed to evaluate the prevalence, mode of presentation, sociodemographic variables, as well as methods of management of uterine fibroid at Federal Teaching Hospital Katsina.

Materials and Methods

All medical records of patients with uterine fibroids managed during the study period were retrieved from the medical records department, theatre and gynaecology ward. The data related to age, parity, mode of presentation, mode of treatment and complications were extracted, entered into personal computer and analysed using SPSS version 19. The results were depicted using descriptive statistics and expressed with simple percentages, mean with standard deviations. Permission for the study was obtained from ethics and research committee of the hospital.

Results

There were 169 cases of uterine fibroids out of 2265 gynaecological admissions, with prevalence rate of 7.5%.

The age of the patients ranged from 21 to 56 years with a mean age

of 37years+/- 8.7. Most of the patients were within 30-39 years age range and accounted for 81(47.93%) of the cases (Table 1).

The parity ranged from 0 to 8, with highest presentation among nulliparous patients (46.75%) while 11.83% were grand multiparous (Table 2). Most of the patients (48.52%) had tertiary education, while (47.93%) had secondary education or less. 3.55% of the patients had no formal education.

Table 1: Age Distribution of Cases.

Age (Years)	Number of Cases	Percentage (%)
20-29	24	14.20
30-39	81	47.93
40-49	56	33.14
50-59	8	4.73
Total	169	100

Table 2: Parity of patients.

Parity	Number of cases	Percentage (%)
0	79	46.75
1	36	21.31
2	14	8.28
3	8	4.73
4	12	7.10
5	20	11.83
Total	169	100

The most frequent complaint was menstrual irregularities (61.54%), followed by lower abdominal swelling (23.67%). 13.02% of the patients presented with infertility (Table 3).

Majority of patients (36.70%) presented with uterine mass of about 16-19 weeks size. This was closely followed by those with 20 weeks and above (33.10%). The uterus was not palpable in 5.90% of cases (Table 4).

Table 3: Mode of presentation.

Presentation	Number of cases	Percentage (%)
Menstrual Abnormalities	104	61.54
□ menorrhagia	76	44.97
□ irregular Menses	16	9.47
□ 2 ^o Dysmenorrhoea	12	7.10
Lower Abdominal Swelling	40	23.67
Lower Abdominal Pain	34	20.19
Infertility	22	13.02
- Primary	8	4.73
- Secondary	14	8.29
Recurrent Abortion	4	2.37
Polyps	3	1.78
Anaemia (pcv <30%)	17	10.06
Fibroid in Pregnancy	8	4.73
Vaginal Discharge	3	1.78
Urinary symptoms	3	1.78

Table 4: Uterine size at presentation.

Uterine size	Number of cases	Percentage (%)
<12 weeks	10	5.90
12-15 weeks	41	24.30
16-19 weeks	56	33.10
20 weeks	62	36.70
Total	169	100

Table 5: Anatomical location of fibroids.

Uterine site	Number of cases	Percentage (%)
Intramural	40	23.70
Subserous	13	7.70
Submucous	18	10.70
Cervical	1	0.60
Combined	59	34.90
Not Well Documented	38	22.40

Table 6: Operations performed.

Operations performed	Number of cases	Percentages
Myomectomy only	124	80%
Myomectomy + Adhesiolysis	13	8.39%
TAH only	8	5.16%
TAH + BSO	2	1.29%
Subtotal Hysterectomy only	4	2.58%
Vaginal polypectomy	4	2.58%
Total	155	100

TAH – Total Abdominal Hysterectomy

BSO – Bilateral Salpingo oophorectomy

Most of the fibroids occurred in more than one site (34.9%). Intramural fibroids accounted for 23.70% of cases. Cervical fibroids were the least frequent (0.60%) (Table 5).

Only 70(41.42%) had HSG done with majority (52.86%) having patent tubes bilaterally. There was however bilateral and unilateral tubal blockage in 21.43 and 15.71% of cases, respectively.

Myomectomy was the most frequent procedure (88.39%), while hysterectomy accounted for 14(9.03%) (Table 6).

Forty-five point nine-eight percent (45.98%) had multiple uterine incisions while 52 (37.96%) had single incisions during myomectomy. There was breach of endometrium in 28.47% of myomectomies.

Anaemia was the most frequent postoperative complication (43.33%), followed by pyrexia (16.66%) (Table 7).

Forty (23.67%) of cases had blood transfusion, with 70% and 12.50% having 2 and 3 units transfused, respectively.

19 (11.24%) patients had used oral contraceptive pills. There was no mortality among the cases reviewed.

Table 7: Post operative complications.

Complications	Number of cases	Percentage (%)
Anaemia	26	43.33
Pyrexia (Temp>38C)	10	16.66.
Wound Infection	4	6.67
Hypotension	3	5
Paralytic Ileus	1	1.67
Spinal Headache	12	20
Urinary Tract Infection	3	5
Vault Infection	1	1.67
Total	60	100

Discussion

The 7.5% prevalence of uterine leiomyoma in this study is in keeping with similar reports from Zaria (7.8%) and Ilesha (8.3%) but lower than 30% reported from Jamaica [11,17]. The true incidence of uterine leiomyoma is difficult to determine since many women of reproductive age group with the pathology are asymptomatic [12,17].

Majority (81%) of cases presented in the third and fourth decades of life, which is in keeping with 78.4% from Ilorin but higher than 69.4% reported from Ile-efe [9,18].

The nulliparous and patients with low parity (para 1 and 2) were at an increased risk, and together accounted for 76.33% of cases. Wider menstrual experience in these patients predisposed to developing fibroids and these tend to be large [12]. There is postulation that myoma formation may be a response to injury from hypoxia in myometrial cells during menstruation [3]. Women with at least two full term pregnancies have been shown to have half the risk for leiomyoma compared with those without any term pregnancy [1]. A significant number of cases were recorded among the grand-multiparous women (11.83%), which may be attributed to racial predisposition.

Menstrual abnormalities were the most frequent presentation (61.54%) and is in keeping with a study from Ile-ife (60.2%), lower than that reported from Zaria (70.4%) and higher than that from Ilesha (52.2%) [11,12,17]. The enlarged endometrial surface area along with hyperplasia of the endometrium, coupled with endometrial venous ectasia have been implicated. Others includes imbalance in uterine prostaglandin productions, disturbances in myometrial contractility as well as increased anovulatory cycles [1,3,9].

Only 13.02% presented with infertility, in keeping with 19.3% from Ife but much lower than 56.2% and 87.2% reported from Ilorin and Zaria respectively [12,17,18]. Fibroids and infertility have both causal and casual relationships [5,6]. They are common in both fertile and infertile women. A review of 677 patients undergoing operations for preservation or enhancement of fertility showed that only 2% of patients had myomectomy for uterine fibroids as the only likely cause of their infertility [1,12]. An observation that 50% of patients that had myomectomy for infertility will conceive

within 12-18 months of surgery supports the role of leiomyoma in the reproductive failure of some women [12,19]. Suggested mechanisms for infertility include: distortion of the endometrial cavity, greater distance for sperm to travel, impairment of blood supply to the endometrium, atrophy, inflammation or ulceration of the endometrium thereby preventing implantation [1,2,12]. Others includes dysfunctional uterine contractility with impaired gamete transfer, enhanced androgen environment, mechanical obstruction to the fallopian tubes and association with chronic pelvic inflammatory disease [1,3,8].

Lower abdominal swelling (23.67%) and abdominal pain (20.19%) were the second and third most frequent presentations, respectively, and are in keeping with other studies [12,13]. Uterine size larger than 12 weeks occurred in 94.1% of cases. This was higher than 68.2% and 67.0% reported from Ilorin and Ife, respectively [12,18]. Delayed presentation due to aversion to hospital care as well as ignorance might be responsible for these.

The preponderance of intramural leiomyoma in this study is consistent with the findings of some workers [3]. The incidence of cervical fibroid (0.6%) is comparable to 1-2% quoted by Tindall but lower than 8.7% reported in Ilesha, Nigeria [11]. This is not surprising because of the relative paucity of smooth muscle cells in the cervix [1].

All cases had ultrasound done, which underscores its importance in excluding other differentials like ovarian tumours, intrauterine pregnancy and adenomyosis. It also helps to locate the site, assess the size and number of fibroids and to rule out complications like hydronephrosis. 41.42% of cases had hysterosalpingography, which is important in identifying intrauterine leiomyoma and the patency of the fallopian tubes. Of these, 47.14% had abnormal findings.

Majority of the cases (88.20%) had surgical management, of with 98.65% had laparotomy while 1.35% had vaginal polypectomy. 88.39% had myomectomy (with or without additional procedures). Myomectomy was often carried out in cases of symptomatic uterine fibroid who have not completed their family size or wish to conserve the uterus. The disadvantage is the significant risk of recurrence, which could occur in up to 50-60% of patients within 5 years postoperatively, and up to 25% will require repeat myomectomy [1,19].

Hysterectomy was done for 9.03% of cases who had completed their family size. Hysterectomy eliminates the symptoms and recurrence [19]. It was total and subtotal in 71.43% and 28.57% of cases, respectively.

Majority (89.68%) of the patients who had surgery were discharged 5-8 days post-operatively, which is comparable to 8 days reported from other studies [6,12,17,18].

Only 11.80% of the cases were managed medically, two of which

were managed conservatively for fibroid degenerative changes in pregnancy. Medical management is used as a temporizing measure to relieve or reduce symptoms (mainly menorrhagia and pain), in those who refused surgery or were medically unfit for surgery. GnRH agonists induce hypogonadism through pituitary desensitization, down regulation of receptors and inhibition of gonadotrophins production [19,20]. Other forms of medical management includes oral contraceptive pills, progestogen, synthetic androgens such as danazol and gestrinone, levonorgestrel releasing intrauterine system and progesterone receptor modulators [20].

In conclusion, uterine leiomyoma is common in our setting, with menstrual irregularities as most frequent presentation. Most of the patients presented with large abdomino-pelvic mass, with myomectomy as the main surgical procedure done. Post-operative anaemia was the most frequent complication.

Recommendations

Health education and improved public awareness on uterine leiomyoma will allow for early presentation for care. This will reduce the threat to the reproductive health of women especially in our environment where there is a dearth of medical facilities.

Ultrasound scans at regular intervals should be done in patients with a family history. This will allow for early detection and prompt management, thereby reducing morbidities.

Training and retraining of Gynaecologists and radiologists on endoscopic and interventional radiological procedures, respectively, would provide safer alternatives to open surgeries, thereby reducing morbidities.

References

1. Kwawukume EY. Uterine leiomyomas. In: Comprehensive Gynaecology in the Tropics. 1st Edition. 2025; 124-135.
2. Wallach EE. Myomectomy. In: TeLinde's Operative Gynaecology. 7th Edition Eds. J.D. Thompson and Rock JB. Lippincott Company. 1992; 647-662.
3. Stewart EA. Uterine Fibroids. Lancet. 2001; 357: 293-298.
4. Vollenhoven BJ, Lawrence AS, Healey DL. Uterine fibroids: A clinical review. Br J Obstet Gynaecol. 1990; 97: 286-298.
5. Briggs ND. Common gynaecological tumours. Trop J Obstet Gynaecol. 1995; 12: 62-71.
6. Omu AE, Ehigiegba AE. Myomectomy: A re-appraisal of post operative reproductive performance. Asia-oceanic J Obstet Gynaecol. 1983; 9: 43-48.
7. Rose RK, Pike MC, Vessey MP et al. Risk factors for uterine fibroids: reduced risk associated with oral contraceptives. BMJ. 1986; 293: 359-362.
8. Marshall LM, Spiegelman D, Barbieri RL, et al. A prospective study of reproductive factors and oral contraceptive use in relationship to the risk of uterine leiomyomas. Fert Steril. 1998; 70: 432.
9. Lowe DG. Benign tumours of the uterus. In: Dewhurst's Textbook of Obstetrics and Gynaecology for Postgraduates. 6th Edition. Ed. DK Edmonds Blackwell Sciences Ltd. 1999; 552-559.
10. Agboola A. Tumours of the corpus uteri. In: Textbook of Obstetrics and Gynaecology for Medical Students. Heinemann Educational books (Nigeria) Plc. 2006; 183-189.
11. Ogunniyi SO, Fasubaa OB. Uterine fibromyomata in Ilesa, Nigeria Med. Practitioner. 1990; 19: 93-95.
12. Komolafe JO, Makinde NO. Uterine leiomyoma in Ile-Ife, Nigeria. Trop J Obstet Gynaecol. 2004; 21: 103-106.
13. American College of Obstetricians and Gynecologists (ACOG). Technical Bulletin. Uterine leiomyomata. Int J Gynaecol Obstet. 1994; 46: 73-82.
14. Bachmann G. Expanding treatment options for women with symptomatic uterine leiomyomas: timely medical breakthroughs. Fertil Steril. 2006; 85: 46-47.
15. Walker WJ, Pelage JP. Uterine artery embolisation for symptomatic fibroids: clinical results in 400 women with imaging follow up. Br J Obstet Gynaecol. 2002; 109: 1262-72.
16. Akinola OI, Ottun TA, Fabamwo AO, et al. Bilateral uterine artery ligation: an effective low technology option in the management of symptomatic uterine fibroids. Trop J Obstet Gynaecol. 2003; 20: 4-6
17. Emembolu JO. Uterine fibromyomata: presentation and management in Northern Nigeria. Int J Gynaecol Obstet. 1987; 25: 413-416.
18. Aboyeji AP, Ijaiya MA. Uterine fibroids: A ten-year clinical review in Ilorin, Nigeria. Nigerian Journal of Medicine. 2002; 11: 16-19.
19. Drinville JS, Memarzadeh S. Benign disorders of the uterine corpus. In: Current Obstetrics and Gynecologic Diagnosis and Treatment. 10th edition. Eds Alan H. Decherney et al. Lange Medical Books, McGraw Hill Medical Publishing Division. 2007; 639-645.
20. Mary Ann Lumsden. Benign disease of the uterus. In: Dewhurst's Text Book of Obstetrics and Gynaecology. 7th edition. Ed. D.K. Edmonds, Black well Publishing. 2007; 636-644.