

Surgical Management of Uterine Fibroids: About 175 Cases

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How to cite this paper: Malick, N.P., Edouard, F.M., Fatou, G.Y., Aya, S.M., Ndama, N., Ndiogou, S.A., Hajar, B., Amine, I.M. and Madjiguène, K. (2023) Surgical Management of Uterine Fibroids: About 175 Cases. *Open Journal of Obstetrics and Gynecology*, 13, 481-489.

<https://doi.org/10.4236/ojog.2023.133044>

Received: February 11, 2023

Accepted: March 19, 2023

Published: March 22, 2023

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Abstract

Background: Uterine fibroids are a common condition in Senegal and often symptomatic. Our study aims to determine the epidemiological profile, to clarify the diagnostic aspects and to evaluate the surgical management of patients with uterine fibroids. **Patients and Method:** We carried out a retrospective and descriptive study carried out over a period of 30 months, from August 1, 2017 to January 31, 2020, concerning all patients who underwent surgery for the treatment of uterine myomatosis in the department of Gynecology Obstetrics of the Hospital Principal of Dakar. The data was collected from the patients' medical records and analyzed using Excel version 2016 and R version 4 software. **Results:** We collected 175 surgical interventions for uterine fibroids, representing 44.7% of gynecological interventions. Most of the patients were between 30 and 39 years old, with an average age of 39 years. The nulliparous were the majority with 64.6%. The clinical symptomatology was represented by genital bleeding (32.6%), pelvic pain (18.85%) and infertility (12.6%). The diagnosis was confirmed by pelvic ultrasound in all patients with variable myoma topography. A myomectomy was performed in 82.3% of cases and a total hysterectomy in 17.7%. The postoperative course was simple in 94.2% of cases, and the results of treatment revealed a disappearance of symptoms in 94.3% of cases. **Conclusion:** Surgery occupies a prominent place in the management of uterine fibroids.

Keywords

Uterine Fibroid, Myomectomy, Pelvic Ultrasound

1. Introduction

Uterine fibroid, a benign tumor of the smooth muscle cells of the uterus, is the

most common benign tumor in women of childbearing age [1] [2] [3]. Its symptomatology dominated by menometrorrhagia and/or pelvic pain may justify surgery, and it is the leading cause of hysterectomy in premenopausal women [4]. Hormone-dependent tumour, of exact origin still poorly understood, explained by several theories including hyperestrogenism; it has a variable incidence between 20% and 30% in the Caucasian race against 50% in the black race [5].

Its management depends on various parameters (age, symptomatology, hormonal status, mapping of fibroids, desire for pregnancy, etc.) may involve medical or surgical treatment (myomectomy, hysterectomy), interventional radiology (embolization) or even abstention therapeutic.

This work is carried out in a reference service where previous work on fibroid surgery has not been done. The objectives of our study were to determine the epidemiological profile of patients with uterine fibroids, to specify the diagnostic methods and to describe the surgical management.

2. Patients and Method

We carried out a retrospective, descriptive and analytical study of 175 patients seen in a specialist consultation in whom uterine myomatosis was diagnosed during the study period, operated on for uterine fibroids over a period of 30 months between August 2017 and January 2020, at the level of the Obstetrics Gynecology department of the Main Hospital of Dakar. We included all patients who had undergone surgery for the treatment of uterine myomatosis in the department. The data listed on the survey sheet were collected from non-computerized patient records and operative report sheets, fully exploited despite some missing data, using Excel version 2016 and R version 4 software.

The variables studied for each patient concerned epidemiological, clinical, paraclinical and therapeutic data.

The description of the qualitative and quantitative variables was made in terms of position parameters (mean, median, frequency) and the crosses made using R version 4 software, with a statistically significant difference for a $p \leq 0.05$ and the Chi-square used to analyze the strength of the association.

3. Results

We collected 175 surgeries for uterine fibroids, representing 44.75% of gynecological procedures performed.

Table 1 summarizes the socio-demographic characteristics of the patients.

The average age of the patients was 39 years with extremes of 18 and 68 years, the age group 30 - 39 years being the most represented (45.7%). The majority of women (70.8%) were married.

Table 2 summarizes the clinical characteristics of the patients.

A notion of infertility was found in 12.6% of patients, and 7.42% of patients had used contraception with the method: estrogen-progestogen pill (69.2%) intra-uterine device (23.1%) and injectable progesterone (7.7%).

Table 1. Socio-demographic characteristics of patients.

Socio-demographic characteristics	N	%
Age (years)		
<20	1	0.6
20 - 24	3	1.7
25 - 29	6	3.4
30 - 34	38	21.7
35 - 39	42	24
40 - 44	44	25.2
≥45	41	23.4
Marital status		
bride	124	70.8
single	41	23.4
divorcee	9	5.2
widow	1	0.6

Table 2. Clinical characteristics of patients.

Characteristics	N	%
Background		
Infertility		
Primary	18	10.3
Secondary	4	2.3
No	153	87.4
Contraception		
Yes	13	7.4
No	151	86.3
Unspecified	11	6.3
Medical		
Hypertension	10	5.7
Diabetes	5	2.8
Asthma	7	4
Sickle cell disease	3	1.7
Surgical		
Myomectomy	8	4.6
Cesarean section	8	4.6
Breast surgery	6	3.4
Others	12	6.8

Continued

Gesture		
Nulligest	91	52
Primigest	40	22.8
Paucigeste	28	16
Multigesture	16	9.2
Parity		
Nulliparous	113	64.6
Primiparous	29	16.6
Pauciparous	22	12.6
Multipara	11	6.2
Reason for consultation		
Genital bleeding	57	32.6
Pelvic pain	33	18.8
Abdominal-pelvic mass	17	9.7
Dysmenorrhea	18	10.3
Other	28	16
Fortuitous	8	4.6
Unspecified	24	13.7

Hypertension and diabetes are the most common medical histories.

The surgical history was: a myomectomy (4.6%), a caesarean section (4.6%).

Among other cases we found: a tubal surgery, an ovarian cystectomy, an appendectomy, six breast cystectomies, a salpingectomy, a tonsillectomy and a thyroidectomy.

Nulligest (52%) and nulliparous (64.6%) were the most represented.

Genital bleeding was the most common manifestation (32.6%) followed by pelvic pain (18.8%) and dysmenorrhea (10.3%).

The other signs (16%) were of the type of genital infection, cycle disorders and infertility.

The blood count found anemia (46% of cases) corrected before surgery. The majority of patients (68%) had uterine polymyomatosis and about 1 in 3 had a single uterine fibroid.

Table 3 shows the mapping of uterine fibroids.

The predominant location of uterine fibroids was subserous (22.85%) then interstitial (21.14%) according to the FIGO 2011 classification. The hysterosalpingography data (34 cases) revealed a cavity anomaly (44.1%), a tubal anomaly (47%) with type of proximal and distal obstruction. The MRI performed (19 cases) also found uterine fibroids, 3 ovarian cysts and one case of adenomyosis with endocavitary polyp. Pelvic computed tomography (7 cases) revealed an ovarian cyst and a herniated disc.

Table 3. Distribution according to location of myomas.

Location	Number (n)	Percentage (%)
Intracavitary	10	5.71
Subserosa	40	22.85
Interstitial	37	21.14
Submucosa	18	10.28
Many	37	21.14
Not specified	33	18.85
Total	175	100

The cervico-uterine smear was normal (no precancerous lesion) in 91.1% of cases, and the vaginal swab revealed an infection in 68.7% of cases.

Two hysteroscopies were performed and showed a case of suspected endocavitary sarcoma and a case of an intracavitary mass.

For surgery, the Pfannenstiel incision was the most used (79.42%) followed by midline laparotomy below the umbilical (14.28%); the vaginal route was exceptional (2.28%).

Table 4 shows the distribution according to the surgical procedure performed.

A myomectomy was performed in 82.29% of patients, with placement of an isthmic uterine tourniquet (39 cases) to minimize intraoperative bleeding (**Table 5**).

The postoperative course was simple for the majority of patients (94.29%); intraoperative hemorrhage was noted during a myomectomy requiring a hysterectomy for hemostasis.

The majority of our patients (94.28%) had a disappearance of the symptomatology; and complaints included pelvic pain (6 cases). Postoperative mortality was nil. One case of myoma recurrence was noted nine months after surgery.

Anatomopathological examination of the surgical specimen was systematically prescribed and the 44 results found confirmed uterine fibroids and certain associated pathologies (ovarian cyst, Nabothcyst, endometrial polyp, salpingitis).

The proportion of myomectomy (85 myomectomy versus 4 hysterectomy) was higher in patients under 40 years old while hysterectomy was more used in those over 40 years old with a statistically significant link $p = 0.0000017$ (59 myomectomy versus 27 hysterectomy). The proportion of conservative treatment was higher in patients with zero parity (104 myomectomy versus 8 hysterectomy) ($p = 0.000001$).

4. Discussion

The limitations of the study were: the retrospective nature with incomplete medical files and registers, and the anatomopathological examination of the surgical specimen not always carried out.

Table 4. Distribution according to the surgical procedure performed.

Type of surgery	Number (n)	Percentage (%)
Myomectomy by laparotomy	144	82.29
Total hysterectomy by laparotomy	27	15.43
Total vaginal hysterectomy	4	2.28
Total	175	100

Table 5. Distribution of patients according to postoperative course.

Complications	Number (n)	Percentage (%)
Infection	3	1.71
Hemorrhagic shock	1	0.57
Parietal suppuration	1	0.57
Bowel obstruction	1	0.57
Uterine atony	1	0.57
Uterine synechia	1	0.57
Endometriosis	1	0.57
Myoma recurrence	1	0.57
None	165	94.29
Total	175	100

Surgery for uterine fibroids constitutes almost half (44.7%) of the surgical interventions of our medical center. These rates are higher than those of Sall (37.3%) and Wathie (37.2%) [6] [7] and could be explained by diagnostic and therapeutic progress, and the quality of the technical platform.

Uterine leiomyoma is more found in the black race. Ultrasound screening carried out in a population of different age groups revealed a prevalence in patients of black origin towards the end of the fourth decade [8].

Our study population, with an average age of 39 years, was in the fourth decade 30 - 39 years for the majority of patients (46%). This rate was similar to those of Sall and Wathie with respectively 40.6% and 48.1% [6] [7], different from the data on populations of Caucasian race carried out by Lumbiganon (61%) and Parazzini (61.8%) in women aged 40 - 49 [4] [6] [7] [9] [10].

Our cohort is dominated by nulligests (52%), whereas Wathie had a majority of primigests (43%) followed by multigestures (35%); and Sall found 32.4% nulligest and 15% multigestures [6] [7]. Coulibaly's study revealed 32% nulliparous [4] compared to 64.5% for our cohort. Several studies have demonstrated an inverse relationship between parity and the risk of occurrence of myomas [9] [11]. The surgical history of myomectomy (4.57%) and cesarean section (4.57%) in our study are similar to those of Sall (3.8% myomectomy and 2.8% cesarean section) and different from those of Magassouba (12% myomectomy) [6] [12].

Uterine fibroids are characterized by clinical polymorphism, with functional

symptoms dominated in our cohort by genital haemorrhages (32.5%), comparable to the data of Sall (36.5%) and Nourelhouda (35%) [6] [10], more marked in the Wathie (56.1%), Fernandez (73.7%) and Edahri (55%) studies [7] [13] [14]. A context of infertility was found in 12.57% against 20.3% for Wathie [7].

Anemia secondary to genital bleeding was found in 46% versus 16.9% and 29% respectively according to Sall and Edahri [6] [14].

Pelvic ultrasound confirmed uterine myomatosis in all our patients with predominantly subserous (22.9%) and interstitial (21.1%) topography. These results are similar to those of Sall [6] with 20% FIGO 2011 classification type 5 fibroids and 16.9% FIGO 6, and Nourelhouda [10] with 43% subserous location; whereas Wathie [7] found a predominant intramural topography (26%). Ultrasound is a useful and effective examination whose sensitivity and specificity depend on the operator and the characteristics of the patients. Abdominal ultrasound is effective for the evaluation of the size of uterine fibroids, and specific with an echosurgical correlation of the lesion, the number and the size of the fibroids.

Transvaginal ultrasound, useful in the diagnosis of metrorrhagia, can measure the thickness of the endometrium, observe the heterogeneity of the myometrium and suggest the probable presence of a tumor.

Hysterosalpingography, a necessary examination in the infertility assessment, is rarely performed because of its cost, which is not always affordable (25.4% of patients with notion of infertility) in the different studies: 12.6% for Sall [6], 28.8% for Coulibaly [4].

The cervico-uterine smear, an examination that must be systematic before any surgical procedure, was very little performed (1 case out of 4) compared to 30.6%, 51.3% and 37.8% in the cohorts by Sall, Wathie and Edahri [6] [7] [14], but no HPV typing was performed.

MRI, an examination with very high sensitivity and specificity in the diagnosis of leiomyomas, was rarely performed in our study. It is the examination of choice in case of coexistence of a fibroid and another pelvic lesion or in case of polymyomatous uterus allowing precise analysis of the different fibroids (location, number, dimensions) [15], and also in distinguishing a fibroid suspected of sarcomatous transformation [16].

Hysteroscopic exploration is considered the diagnostic and therapeutic modality of choice in the case of submucosal fibroids (types 0, 1 and 2 FIGO) [17]. It was not performed in our study due to its unavailability.

The surgical attitude depended on the age, parity, symptomatology, number and topography of the myomas and the technical platform available.

Our myomectomy rate (82.29%) is similar to those of Wathie (82.4%) and Coulibaly (85%) but much higher than the results of Sall (68.5%), Magassouba (55.77%) and Mahbouli (40%) [4] [6] [7] [12] [18].

Myomectomy was used especially when the patient was young and had low parity with a statistically significant link ($p = 0.0000017$) between young age and the surgical procedure performed.

Total hysterectomy was performed in 17.72% of patients who were mostly

multiparous. A subtotal hysterectomy was not performed in our study, unlike Wathie (4%) and Sall (0.7%) [6] [7].

Post-operative follow-up was simple in the majority of cases, compared to 43.6% of major complications dominated by intraoperative haemorrhage according to Adenisa [19] and 55% infectious complications for Geidam [20].

A single case of recurrence of myoma (0.57%) at 9 months was found against 2.1% of cases of recurrence at one year for Sall, and no recurrence for Wathie [6] [7]. Recurrences of fibroids are all the more observed as the observation times are long, and could be explained by incomplete excision of the fibroids leaving small subcentimetric nuclei deeply embedded in the myometrium. They are suspected when hemorrhagic symptoms return [21].

This risk of recurrence is quite frequent for the other surgical routes, with 36.8% after laparoscopic myomectomy according to Nezhat [22].

5. Conclusion

Uterine fibroids, also called “uterine moles”, are the most common benign tumor in women of childbearing age. Ultrasound remains a powerful and very accessible diagnostic method. Myomectomy by laparotomy, in our countries, still occupies a good place in surgical management, despite the use of less invasive and hemorrhagic techniques.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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