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Original Research Article

## Epidemiological, clinical and therapeutic profile of uterine fibroids at the Befelatanana University hospital centre of obstetric gynecology of Antananarivo, Madagascar

Rainibarijaona L. N. A.<sup>1</sup>, Randriamahavonjy R.<sup>2</sup>, Rakotonirina Andriamaro M.<sup>1\*</sup>,  
Ratsiatosika Andriamanetsiarivo T.<sup>1</sup>, Housni Ibrahim<sup>1</sup>,  
Rasoanandrianina Bienvenue Solange<sup>2</sup>, Hery Rakotovo Andrianampanalinarivo<sup>2</sup>

<sup>1</sup>Department of Obstetrics and Gynecology, Befelatanana University Hospital of Obstetric Gynecology in Antananarivo, Antananarivo, Madagascar

<sup>2</sup>Department of Obstetrics and Gynecology, Soavinandriana University Hospital Centre of Antananarivo, Antananarivo, Madagascar

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**\*Correspondence:**

Dr. Rakotonirina Andriamaro M.,

E-mail: [andriamarorakotonirina@gmail.com](mailto:andriamarorakotonirina@gmail.com)

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### ABSTRACT

**Background:** Leiomyomas or fibromyomas more commonly referred as uterine fibroids are the most common tumors of the female genital tract. They affect 20 to 25% of women in genital activity. The objective of present study is to describe the epidemiological and therapeutic profile of uterine fibroids at the UHCOBG.

**Methods:** Retrospective and descriptive cross-sectional study of patients with uterine fibroids hospitalized in the department of gynecology of the UHCOBG between January 2015 and December 2016.

**Results:** In total, 101 cases of uterine fibroids have been identified with a prevalence of 3.92%. The average age is  $42.75 \pm 3.6$  years old. The most affected age group varies from 35 to 45 years old. Thirty-eight-point six percent of the patients were pauciparous. The medical history of irregular menstrual cycle disorders was present in 17.8% of the cases. The symptomatology was dominated by menometrorrhagia (78.2%) and in 67.3% of the cases, patients had anemia. The majority of patients (64.4%) had poly-myomatous uterus which fibroid location was predominantly corporeal (92.1%), isthmic (21.8%), and three quarters of the mapping was interstitial. Complications were dominated by aseptic necrobiosis (7.9%) and conservative treatment in 68.3% of the cases. Laparotomy is the pillar of a surgical treatment. The duration of hospitalization was short in 77.2% of the cases, 91.1% had a good progress and no death was noticed during 2 years.

**Conclusions:** This is the first operative indication of all gynecological pathologies in present UHC and proves to be a real public health problem. The development of operative laparoscopy is necessary to reduce the morbidity associated with treatment.

**Keywords:** Fibroids, Laparotomy, Metrorrhagia

### INTRODUCTION

Leiomyomas or fibromyomas more commonly referred as fibroids are the most common tumors of the female genital tract. They affect 20 to 25% of women in genital activity.<sup>1</sup> Often asymptomatic, léiomyomes disclosed in the course of a systematic gynaecological examination or

one of the techniques of pelvic imagery, introduce a manifold symptomatology of which: ménorragies, métrorragies heaviness, pelvic pain, pelvic, perception of a pelvic mass, barrenness or following painful, mechanical or haemorrhagic complications.<sup>2</sup> Pelvic ultrasound scan is diagnostic supplementary examination of référence.<sup>3</sup> In almost 50% of the cases, fibroids

represent the leading cause of benign lesion hysterectomy in pregnant women age and pre-menopausal women.<sup>4</sup> Their frequency is higher among black women.<sup>5</sup>

In Madagascar, there is no epidemiological data published but the various annual statistics of obstetric gynecology service of the Befelatanana University Hospital of Obstetric Gynecology (UHCOBG) make uterine fibroid, the first indication surgery of all gynecological pathologies.

Their frequency rated the high frequency of this disease in black Africa including Madagascar and the complications that it can cause, it seemed interesting to devote an epidemiological -clinical and therapeutic study on the cases observed in the Department of Obstetrics and Gynecology of the Befelatanana UHCOBG.

## METHODS

Authors conducted retrospective and descriptive cross-sectional study from January 2015 to December 2016 on patients with and without fibroids at the Befelatanana maternity ward in Antananarivo, Madagascar, a reference level III maternity hospital located in the city centre of the capital. The diagnosis of this pathology was retained preoperatively on echography characteristic signs.

### Inclusion criteria

All patients who had undergone surgery or not in the Department of Gynecology for Uterine Fibroids and had a complete medical record were included in the study.

### Exclusion criteria

Patients admitted for uterine fibroids but requested a discharge were not included in the study; all patients hospitalized for other pathology than uterine fibroids.

The studied parameters were: age, ethnicity, occupation, marital status, gestational, parity, number of abortions, mode of discovery, gynecological obstetric history, family history, clinical sign, echography sign, and treatment received, the duration of hospitalization and patient progress.

### Statistical analysis

These data were collected from the hospital registration and patient medical records, entered on Word 2007, processed and analyzed with Epi-Info 3.5.4 software.

## RESULTS

During the study period, authors identified 101 patients presenting uterine fibroids out of 2576 hospitalized for gynecological pathology, a prevalence of 3.92%. The patients were between 25 and 68 years old with an average age of  $42.76 \pm 7.35$  years. The maximum

frequency was found in the age group of 35-45 years, that is to say 47.5% followed by those of 45-50 years with 27%.

The majority of present patients worked in the primary sector (40.7%) preceded by an unclassified occupation (29.7%) and secondary sector (20.8%). 3% of the patients were married. The Merina ethnic group represented 83.7% of the population. According to the parity, authors reveal an increase of this type of pathology in nulliparous women which is 38.6% compared to multiparous women that is 15.8%.

Criterion, irregular cycle-type menstrual cycle disorders accounted for the most common gynecological-obstetric history in 17.8% of the cases. For the discovery mode, genital hemorrhage was the most frequent reason for consultation, 78.2% of the cases. The examination signs found were the uterus has increased in volume in 80.2% of the cases and 34.7% of patients were presented with clinical anemia.

In the echography signs, authors note in present study a predominance of fibroids of the uterine body (92.1%) in comparison with isthmic (21.8%) and cervical (4.9%) fibroids. In comparison to the uterine wall interstitial fibroids (type 4 according to the FIGO classification) are the most common (72.3%) The majority of patients (65 cases or 64.4%) had a polomyomatous uterus (Table 1a and 1b).

**Table 1a: Epidemiological and clinical profile in patients with uterine fibroids.**

Parameters	Number (n)	Rate (%)
<b>Age groups</b>		
25-35 years old	11	10.8
35- 45 years old	48	47.5
45-68 years old	42	41.7
<b>Profession</b>		
No	30	29.7
Minor	21	20.8
Average	41	40.7
Superior	9	8.9
<b>Ethnic</b>		
Merina	84	83.7
Antakarana	3	2.9
Sihanaka	2	1.9
Betsimisaraka	2	1.9
Bezanozano	1	0.9
Betsileo	4	3.9
Tsimihety	1	0.9
Zafirona	1	0.9
Antemoro	1	0.9
Antavaratra	1	0.9
Commoriène	1	0.9
<b>Marital status</b>		
Married	87	86.3
Single	13	12.9
Widow	1	0.9

**Table 1b: Epidemiological and clinical profile in patients with uterine fibroids.**

Parameters	Number (n)	Rate (%)
<b>Urinary disorder</b>	5	4.9
Defecation disorder	4	3.9
Fetid loss	4	3.9
<b>Signs</b>		
Clinical anemia	35	34.7
Uterus increased	81	80.2
Biological anemia	68	67.3
<b>Echography signs</b>		
<b>Cartography</b>		
Interstitial type 4 according to FIGO	73	72.3
Submucosal	24	23.8
Sub-serosal	20	19.8
Intracavitary	7	6.9
<b>Location</b>		
Body	93	92.1
Isthmus	22	21.8
Vaginal route	5	4.9
<b>Number of cores</b>		
Multiples	65	64.4
Uniques	36	35.6
<b>Complications</b>		
Aseptic Necrobiosis	8	7.9
Calcifications	1	0.9
Twist	0	0.0
<b>Medical history</b>		
High blood pressure	18	17.8
Diabetes	1	0.9
Alcoholism	0	0.0
Smoking	2	1.9
Menarche <12 years	1	0.9
Myomectomy	1	0.9
Uterine fibroids	21	20.8
Contraceptives	11	10.9
Menstrual cycle disorders (irregular cycle)	18	17.8
Current pregnancy	6	5.9
Surgical history	17	16.8
<b>Gravidity</b>		
Nulligravida (0)	16	15.8
Primigravida (1)	21	20.8
Paucigravida (2-3)	31	30.7
Multigravida (>3)	33	32.7
<b>Parity</b>		
Nulliparous (0)	39	38.6
Primiparous (1)	22	21.8
Pauciparous (2-3)	24	23.8
Multiparous (>3)	16	15.8
<b>Abortion</b>		
0	64	63.4
1	19	18.8
≥2	18	17.8
<b>Mode of discovery</b>		
Fortuitous	8	7.9
Genital bleeding	79	78.2
Pelvic pain	48	47.5
Pelvic mass	57	56.4

Regarding treatment, medical treatment was dominated by symptomatic treatment such as progestogen hormone therapy (20.8%), antihemorrhagic (38.6%), blood transfusion (28.7%). For surgical treatment, the majority of patients undergoing surgery (44 cases or 43.6%) underwent hysterectomy with retention of appendices in 68.3% of the cases, the rest (10.9% of patients) undergoes a myomectomy. The first route was laparotomy in 92.6% of the cases and the vaginal route in 7.4% of the cases. No laparoscopic intervention was performed. The duration of hospitalization was short in 77.2% of cases. Ninety-one percent had a progress and no deaths were reported for 2 years (Table 2).

**Table 2: Patients behaviour with uterine fibroids.**

Parameters	Number (n)	Rate (%)
<b>Medical treatment</b>		
Antibiotic	76	75,2
Analgesic	75	74,2
AINS	10	9,9
Antihemorrhagic	39	38,6
Hormone therapy: progestin	21	20,8
Blood Transfusin	29	28,7
Iron	48	47,5
Antispasmodic	8	7,9
<b>Surgical treatment</b>		
Myomectomy	11	10,9
Hysterectomy	44	43,6
Preservation of appendixes	69	68,3
<b>Duration of hospitalization (week)</b>		
<1	78	77,2
1-3	19	18,8
>3	4	3,9
<b>Progress</b>		
Good	92	91,1
Complicated	1	0,9
Transfer	8	7,8
Death	0	0,0

## DISCUSSION

At the end of present study, the prevalence of uterine fibroid was 3.92%; lower than that reported by some African authors such as Mahbouli S et al, in Tunisia reporting a rate of 19.1% compared to all surgical procedures for gynecological reasons and Laghzaoui M et al, in Morocco reporting a rate of 15% compared to the whole hospitalized gynecological pathology, Dia A et al in Senegal reporting a rate of 58.62% of all gynecological conditions operated and Sy T et al in Guinea reporting a rate of 49.92%.<sup>6-9</sup> The low frequency in present series could be explained by the fact that it is a monocentric study. Most often patients were only seen at the stage of complications. Access to health care leads to an underestimation of the frequency of uterine myoma within present centre. In developed countries, present

prevalence is consistent with that reported by Zimmermann et al, who reported from an international survey of the general population that the prevalence of symptomatic uterine fibroids in 6 countries (Brazil, Canada, France, Germany, Italy, Korea South, United Kingdom, The United States) ranged from 4.5% (United Kingdom) to 9.8% (Italy) with a prevalence of 4.6% for France.<sup>10</sup>

The average age of present population was 42.76±7.35 years old, present results are comparable to what Baldé IS and al found an average of 42 years old in Guinea, 43 years old according to Parazzini quoted by Mahbouli.<sup>6,11</sup> In France, Fernandez H found that the average age of the global population is 46 years old for the three years studied.<sup>12</sup> The distribution of the fibroids rate as per age is found through different studies that have investigated the different factors associated with fibroids, but there is no study strictly speaking on this subject. It was not noted therefore a difference in average age in African countries than in Europe.

The Merina ethnic group represented the 83.7% of the population. This distribution can be explained by the population mainly Merina who lives in the capital admitted to present hospital which is located in the capital and by the fact that the Merina ethnic group constitutes the bulk of the female population in Antananarivo.

According to parity, reveals in this type of pathology that nulliparous women was 38.6% of which were the most affected in this study compared to multiparous women (15.8%) which was comparable to what Baldé IS et al in Guinea Nulliparous women (32.8%) were the most affected in their study.<sup>11</sup> Nulliparous women are more exposed to this pathology compared to multiparous women, which supports, according to numerous studies, the parity-fibroid association which highlights the protective character of multiparity against the appearance of uterine myomas.<sup>13-14</sup> It is found that most women with uterine fibroids were nulliparous and that the risk of fibroids decreases with the parity number, so the pregnancy can be considered as a protective factor against uterine fibroids or uterine fibroids is a cause of subfertility

Most of present population had a history of spontaneous miscarriage (36.6%). Nelelhouda et al in Algeria found 19.5% spontaneous abortion.<sup>15</sup> In the literature, the frequency of spontaneous abortions on a non-pathological uterus varies by 4% at 18%. Spontaneous abortions are more common in pregnancy-associated fibroma.<sup>16</sup>

For the mode of discovery, genital haemorrhage was the most frequent reason for consultation (78.2% of cases), similar to that reported by Nourelhouda in Algeria, that genital hemorrhage was the most frequent reason for consultation, that is to say 35% of all cases.<sup>15</sup> Laghzaoui M et al in Morocco reported that the reason for

consultation was dominated by genital hemorrhage (68.26%).<sup>9</sup> Elsewhere, Dia A and al in Senegal reported that the increase in the volume of the abdomen was the reason for consultation. This difference in present results may be explained by the fact that patients with an abdominopelvic mass are more likely to use surgery than Gynecology and vice versa for those with metrorrhagia.

The examination signs found were uterine enlarged in 80.2% of the cases and 34.7% of patients had clinical anemia. This pelvic mass is perceived by the woman herself or by the surroundings. In addition, the rate of patients with a diagnosis of anemia in France was between 8.4% and 8.8% for the entire population and between 7.5% and 8.0% of patients with uterine fibroids identified in primary diagnoses and related diagnoses.<sup>12</sup>

On echography, according to the location in relation to the uterine wall interstitial fibroids are the most widespread (72.3%) which is the same finding that Baldé IS et al in Guinea also found that the interstitial myoma is the most encountered 48.<sup>10</sup> On the other hand, according to Nourelhouda C in Algeria, sub serous fibroids are the most frequent (43%) in his study.<sup>15</sup> Authors note through present study a predominance of fibroids of the uterine body (92.1%) in comparison with isthmic (21.8%) and cervical (4.9%) fibroids, with the majority of patients (65 cases, 64.4%) having a polymyomatous uterus. This result is consistent with what found by Nourelhouda C in Algeria, who reported in his study a predominance of fibroids of the uterine body (96%) compared to isthmic (3%) and cervical fibroids (1%) and the majority of patients (167 cases or 51.70%). % had a polymyomatous uterus.<sup>15</sup>

Regarding treatment, medical treatment is dominated by symptomatic treatment especially preoperatively as antihemorrhagic (38.6%), blood transfusion (28.7%) and progesterone hormone therapy (20.8%) but no agonist GnRH were used because of its unavailability in Madagascar. In France, patients may be referred for pre-operative treatment due to anemia, menometrorrhagia in accordance with GnRH agonist or Ulipristal acetate preoperative treatment, or to reduce the size of the fibroid for in present context, authors do not have a laparoscopic technique, which makes the uterine volume reduction treatments useless. In addition, authors did not have any cases of vaginal hysterectomy for myoma during this period. Most of the time, the myomas are voluminous contraindicated this type of surgery.<sup>12</sup>

In terms of surgical acts the majority of the patients operated (44 cases or 43.6%) were the subject of a hysterectomy with preservation of the appendices in 68.3% of cases; the rest (10.9% of patients) underwent myomectomy. present finding is comparable to what Dia A et al in Senegal also reporting more hysterectomy in their series (35.72% hysterectomy subtotal and 27.86% total hysterectomy) with a myomectomy rate of 28.57%.<sup>6</sup> For Mahbouli S et al in Tunisia, the myomectomy

performed in 43% of the cases in its series was performed by three routes: abdominal (80, 8%), hysteroscopic (13.8%) and laparoscopic (5.3%).<sup>6</sup>

Authors did not perform hysteroscopy and laparoscopy by equipment, but in all cases the results obtained can be superimposed the used technique. In different circumstances, Nourelhouda C in Algeria found that the majority of patients undergoing surgery (232 cases or 71.82%) underwent a myomectomy. Fifty-eight patients (17.95%) underwent total interannexial hysterectomy and subnotal interannexial hysterectomy was performed for 22 patients, 6.81%. However only 11 patients or 3.40% of cases were operated on by total hysterectomy with adnexectomy.<sup>15</sup>

The duration of hospitalization was short in 77.2% of cases. Ninety-one percent had a full progress. Authors were interested in the operative follow-up between the day of the intervention and the discharge of the patient from the Hospital and those occurring one month after its release. In all cases, the postoperative course was simple. Baldé et al also had the same observation that the operative follow-up was uncomplicated in 63.8% of the cases.<sup>11</sup> No deaths were observed during 2 years, comparable to those of Mahbouli et al in Tunisia who recorded no deaths in their A series of 219 patients.<sup>4</sup> The literature data report a lethality of less than 1%.<sup>17-18</sup>

One of the limitations of present study is the absence of measurement of weight and volume of myomas. Authors could not analyze this parameter because it was not mentioned in the medical file. However, it conditions the approach for surgical treatment. Studies integrating this parameter could bring more precision compared to the quality of health care in present centre.

## CONCLUSION

Authors note that this pathology is uncommon in Madagascar compared to other African countries, but uterine fibroids are the first indication of all gynecological pathologies in present Hospital and prove a real public health problem that must be identified by the elaboration. The main treatment is laparotomy with myomectomy isolated or associated with a hysterectomy. The development of laparoscopy in present center is necessary to reduce the duration of hospitalization and the risk. morbidity and mortality.

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