



Research Article

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Epidemio-clinical profile of patients who underwent myomectomy in two first-level hospitals in the city of Douala, Cameroon

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Abstract

Introduction: The aim of this study was to describe the epidemiological-clinical profile of patients who underwent myomectomy by laparotomy in two first-level hospitals in the city of Douala, Cameroon. **Methods:** This was a retrospective descriptive study including the records of patients who underwent myomectomy by laparotomy from January 1, 2012 to December 31, 2020 at the General Hospital and the Gyneco-Obstetrics and Pediatric Hospital of Douala. Epidemiological, clinical and paraclinical data were collected. The results were analyzed using SPSS version 25 and Microsoft Excel 2016 software. **Results:** A total of 204 patients were enrolled. The mean age was 37.02±4.9 years. The nulliparous and the infertile respectively represented 68.1 and 66.7% of the participants. Abnormal bleeding (68.2%) was the most common reason for consultation. Anemia affected 72.1% of patients. Overweight and obesity were found respectively in 34.8 and 31.9% of patients. More than 7 out of 10 patients had a uterus larger than 16 weeks of amenorrhea. 4.40 cm. Interstitial and submucosal myomas involved respectively 82 and 53% of patients. Endometrial polyps were associated in 28.6% of explored cases. **Conclusion:** Myomectomy is performed in relatively elderly patients, consulting for abnormal bleeding, and associating infertility, overweight, and anemia. They present a large uterus, comprising voluminous myomas, mainly interstitial, but also submucosal, which can coexist with polyps, hence the interest of hysterosonography.

Keywords: Epidemiological, Clinical profile, Myomectomy, Douala, Cameroon.

INTRODUCTION

Uterine fibroids or leiomyomas are benign tumors developed at the expense of the myometrium. This pathology is more common in black women than in Caucasians [1]. Indeed, it affects 10 to 15% of white women of childbearing age, compared to 30 to 40% for black women in the same age group, with a singular predilection in the context of infertility [1]. Uterine fibroids can present various clinical pictures with different incidences depending on their location, or even their volume, among which, infertility [2]. Current data from the literature indicate that submucosal myomas with distortion of the uterine cavity, as well as those whose diameter exceeds 3 to 4 cm, have a negative effect on fertility [2-5].

The management of myomas has been enriched by the contribution of new technologies including embolization or recently, the use of ultrasound [6]. However, myomectomy often remains the treatment of choice, especially in the context of infertility due to the deleterious effect of the above-mentioned techniques on the uterine vascularization [6]. And even when the surgical option is chosen, nowadays there is the problem of the choice of the approach depending on the clinical forms: laparoscopy? hysteroscopy? or classic laparotomy? This issue concerns us today, more than yesterday, insofar as all these techniques are now available in our reference hospitals.

The aim of our study was to describe the epidemiological-clinical profile of patients who underwent myomectomy by laparotomy in two first-level hospitals in the city of Douala-Cameroon.

MATERIALS AND METHODS

Study setting and population

This descriptive study with retrospective data collection took place over a period of 9 years (January 1, 2012 to December 31, 2020) at the Douala General Hospital (HGD) and at the Gyneco-obstetrics and

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Pediatric Hospital of Douala (HGOPEd). These are two first category hospitals in the city of Douala, Cameroon.

It concerned all the records of patients who underwent a myomectomy in the said hospitals during the study period. Incomplete files were excluded. We conducted exhaustive consecutive sampling.

Procedures

The identification of medical records was made in the registers of the external consultation and in the operating room of the gynecology-obstetrics departments. The consultation of these files allowed the collection of data on a survey sheet previously designed using the Epi Infos 7.0 software including:

- Socio-epidemiological characteristics (age, place of residence, marital status, level of study)
- Clinical data
- Gynecological history (abortion, contraception)
- Obstetric history: gestation, parity, primary or secondary infertility, duration of infertility,
- Surgical history: history of myomectomy
- Medical history: hypertension, diabetes.
- Circumstances of discovery
- Physical examination: weight, height, body mass index (BMI), size of the uterus expressed in weeks of amenorrhea (WA).

Clinical assessment of uterine size was based on the following criteria:

A 20 WA uterus corresponded to the perception of the uterine fundus at the level of the umbilicus, that of 16 WA was determined by a uterine fundus midway between the umbilicus and the upper edge of the pubic symphysis, while a uterine fundus just above the upper edge of said pubic symphysis indicated a gestational age of 12 weeks.

Paraclinical investigations

- Data on blood count before surgery
- Ultrasound data
- Data relating to hysterosonography
- Data relating to hysterosalpingography

Statistical analyzes

Data were entered and analyzed using Epi Info 7 software. Qualitative data were represented as counts and proportions. Quantitative data were represented by mean and standard deviation.

Ethics

Table 2: Gyneco-obstetrical history of patients who underwent myomectomy by laparotomy in two first category hospitals in the city of Douala, Cameroon. N= 204.

Variables	Modalities	Values
Parity		
	Nulliparous	139 (68.1)
	Primipara	36 (17.6)
	Pauciparous	25 (12.3)
Gestation	Multiparous	4 (2.0)
	Nulligest	77 (37.7)
	Primigest	46 (22.5)

The ethical clearance was given by the Institutional Ethics Committee of the University of Douala. Total confidentiality was respected. All analyzes were done anonymously..

RESULTS

Of the 2100 records of operated patients, 309 patients underwent laparotomy myomectomy. Myomectomy represents 14.7% of surgical procedures. Finally, 204 files meeting our inclusion criteria were collected, i.e. 107 (52.4%) patients at the HGD and 97 (47.5%) at HGOPEd.

Epidemiological characteristics

The average age of the patients was 37.02 ± 4.90 years with extremes of 25 and 50 years. The most represented age group was that of [30-40]. More than half of the workforce had a higher level of education (51.5%). Single patients were the most represented with a proportion of 61.8%. Nearly 9/10th of patients (89.0%) lived in urban areas (see Table 1).

Table 1: Epidemiological characteristics of patients who underwent laparotomy myomectomy in two first hospitals in the city of Douala, Cameroon. N=204.

Variables	Modalities	Values
Age (years)	Mean	37.02 ±4.90
Age groups	20-30	13 (6.3)
	30 – 40	120 (58.9)
	40 – 50	70 (34.3)
	>50	1 (0.5)
School level	No schooling	1 (0.5)
	Primary	11 (5.4)
	Secondary	87 (42.6)
	University	105 (51.5)
Place of residence	Urban	
	Rural	
Matrimonial status	Married	78 (38.2)
	Single	126 (61.8)

Clinical features

Gyneco-obstetric history

The nulliparous represented 68.1% of the patients. More than half of these nulliparous were also nulligest. They represented 37.7% of our population. A notion of infertility was reported by 66.7% of the participants. It lasted less than 5 years for 66.1% of them. It was secondary infertility in 63.0% of cases. Contraception was found in 35.8% of women, while 20.6% had a history of myomectomy.

	Paucigest	55 (27.0)
	Multigest	20 (9.8)
	Large multigest	6 (3.0)
Abortion history		108 (52.9)
Number of abortions performed per patient	0	96 (47.1)
	1 – 2	87 (42.6)
	≥3	21 (10.3)
History of infertility	Number of infertile women	136 (66.7)
Type of infertility n =136	Primary infertility	50 (37.0)
	Secondary Infertility	86 (63.0)
Duration of infertility n =136	≤5 ans	90 (66.2)
	>5 ans	46 (33.8)
Contraception		73 (35.8)
History of myomectomy		42 (20.6)
Medical history	High blood pressure	11 (5.4)
	Diabetes	2 (1.0)

Circumstances of discovery and findings of the physical examination.

The most frequently found circumstances of discovery were abnormal bleeding (68.2%) and fortuitous discovery during an infertility assessment (21.6%).

2/3 of the women had a weight above normal. Overweight was found in 34.8% and obesity in 31.9% of women.

Patients with a uterine size between 16 and 20 weeks were the most represented, i.e. 38.2% (see table 3).

Table 3: Circumstances of discovery and findings of physical examination of patients who underwent myomectomy in two first category hospitals in the city of Douala, Cameroon. N= 204.

Modalities	Variables	Values
Circumstance of discovery	Abnormal uterine bleeding	135 (68.2)
	Pelvic pain	34 (16.7)
	Infertility assessment	44 (21.6)
	Pelvic mass	17 (8.3)
	Squeeze sign	14 (6.9)
	fortitious discovery	13 (6.7)
	Body mass index	
	Underweight	1 (0.5)
	Normal	67 (32.8)
	Overweight	71 (34.8)
	Obesity	65 (31.9)
Size of the uterus (in weeks of amenorrhea)	<16	58 (28.4)
	≥16	146 (71.6)
	[16 – 20]	78 (38.2)
	[20 – 24[38 (18.6)
	>24	30 (14.8)

Paraclinical characteristics

Complete blood count data

Anemia was observed before myomectomy in 72.1% of patients, of whom 7.8% had severe anemia.

Pelvic ultrasound data

Pelvic ultrasound was requested in 198 women (97.1%). Myomas were associated with the presence of simple ovarian cysts in 61.1%. The

diagnosis of uterine fibroids in the 6 patients who did not perform ultrasound was made by hysterosonography only. Associated polyps were objectified on ultrasound in 2 cases out of 198 (1%).

Characteristics of myomas

Interstitial myomas were the most found with a frequency of 82%, followed by subserous localizations, involving 77.1% of cases. More than half (53%) of the patients had submucosal myomas. The FIGO classification was performed in 30 patients. FIGO class 4 was

predominant (66.7%), followed by classes 2,3 and 5 in identical proportions of 60% each. (see Table 4)

Hysterosalpingography data

Hysterosalpingography was performed in 58 (30.9%) cases. The main findings were bilateral tubal patency in 27% of cases and bilateral proximal tubal obstruction in 22.1%.

Hysterosonography data

Hysterosonography was performed in 21 patients (10.3%). It revealed the association of myomas with endometrial polyps in 6 cases out of 21, i.e. a proportion of 28.6%.

All the imaging data can be found in Table 4.

Table 4: Paraclinical data: ultrasound, hysterosalpingographic and hysterosonographic findings of patients who underwent myomectomy in two first category hospitals in the city of Douala, Cameroon. N= 204.

Variables	Modalities	Values
Ultrasound performed		198 (97.1)
Findings on the uterus	Myomas	196 (99.0)
	Polyps and myomas	2 (1.0)
Characteristics of myomas		
Numbers	<5	85 (41.7)
	[5-10[74 (36.2)
	[10-15[34 (16.7)
	[15-20[8 (4.0)
	≥20	3 (1.4)
Location	submucosa	107 (53.2)
	subserosal	155 (77.1)
	interstitial	165 (82.1)
FIGO classification	FIGO 0	12 (3.3)
	FIGO 1	6 (20.0)
	FIGO 2	18 (60.0)
	FIGO 3	18 (60.0)
	FIGO 4	20 (66.7)
	FIGO 5	18 (60.0)
	FIGO 6	6 (20.7)
	FIGO 7	3 (10.7)
Adnexa findings	Simple ovarian cysts	11 (61.1)
	Endometriotic ovarian cysts	2 (11.1)
	Polycystic ovarian syndrome	3 (16.7)
	Adenomyosis	2 (11.1)
Hysterosalpingographies performed		63 (30.9)
Hysterosalpingographic findings		
	Bilateral proximal tubal obstruction	14 (22.2)
	Unilateral proximal tubal obstruction	12 (19.0)
	Unilateral distal tubal obstruction	9 (14.2)
	Bilateral tubal patency	17 (27.0)
	Unilateral tubal patency	6 (9.6)
	Myomas	5 (8.0)
Hysterosonographies performed		21
Findings Hysterosonography	Isolated myomas	15 (71.4)
	Endometrial polyps associated with myomas	6 (28.6)

DISCUSSION

This descriptive study with retrospective data collection, conducted at the General Hospital of Douala and at the Gyneco-Obstetrics and Pediatric Hospital of Douala, Cameroon, allowed us to establish the epidemiological-clinical profile of patients who underwent myomectomy by laparotomy.

The proportion of myomectomy by laparotomy compared to all gyneco-obstetrical surgical interventions in our study centers is estimated at 14.7%. Ngono et al. Reported a similar rate at the gyneco-pediatric hospital of Yaoundé, i.e. 14.3% [7].

According to many authors, women with myomas recruit preferentially in the 4th decade of life [8-13]. The average age in our series was 37.02 ± 4.90 years.

In our study, 68.1% of patients were nulliparous. This proportion is close to that of Jeldu et al. (66.7%), and Coulibaly et al. (60.67%) [14, 15]. For Parazzini et al., myomas are linked to a high risk of abortion [16]. In effect, a history of abortion was found in 63.9% of our patients.

Two thirds of our patients (66.7%) were infertile. These data are close to those of Ngo Umet al. (65.6%) [13]. Sukur et al. Reported a rate of 92% in patients treated in a medically assisted procreation program, therefore a priori infertile [17].

The main discovery circumstance found in our study was abnormal uterine bleeding (68.2%), a proportion close to that of Koffi et al. (67.3%) [18] and Fernandez et al., (73.7%). % [19]. Other authors note a more modest frequency of hemorrhages, like Ngo Um et al., Ahdad Yataa et al., and Sukur et al., who found respective rates of 63.3, 61.9 and 54 % [13, 17,20].

The morphological assessment of cases of infertility was the second most frequent circumstance in our series (21.6%). Coulibaly et al., found the desire for pregnancy in 48.3% of cases, while koffi et al. reported a rate of 15.6% [15,18].

Pelvic pain (16.7%) was the 3rd reason for consultation in our study. Sukur et al. reported 40% pelvialgia, a higher proportion than our findings and those of Ngo Um et al. (25.7%) [13, 17]. The subjective nature of pain implies that the position of pelvialgia as an initial complaint depends more on the experience, on the perception of pain, than on its real intensity, the most stoic complaining less, thus inducing these differences.

Obesity is a recognized risk factor for myomas in the literature [1]. In fact, 2/3 of our patients were overweight, ie 34.8% overweight, and 31.9% obese.

More than 7 out of 10 patients had a uterus of size ≥ 16 weeks. Indeed, only 28.4% of them had a uterus less than 16 weeks old, indicating the predominance of large uteri. The average size of the uterus was 15 SA in the series of Sukur et al., [17]

Anemia affected 72.1% of patients, including 7.8% of severe forms. Our results differ from those of Ngo Um et al., who reported anemia in almost all of their sample (95.1%), including 25.7% of severe forms [13]. On the other hand, Sukur et al. They found an anemia rate of 24% [17]. Endemic polyparasitism, including malaria, and helminthiasis, could explain this difference.

The diagnosis was made by ultrasound in 198 patients (97%), and by hysterosonography alone in 6 cases (3%). In our study, ultrasound remained the first-line examination for the diagnosis of uterine fibroids, as for many authors [15, 20, 21].

In the literature, the average number of myomas varies from 1.85 to 12 [17, 22]. We report a proportion of 58.3% of patients with at least 5 myomas, among which 22% had more than 10 myomas.

Yan et al., in agreement with Christopoulos et al., demonstrated that myomas whose size exceeds 3-4cm had a negative effect on fertility [23, 24]. The average size of the myomas in our series was 9.52 ± 4.40 cm, that of the largest myoma being 35 cm. The Caucasian series report more modest average heights, like Rakeshet al. (5.86 ± 3.3 cm) and Piotr Jedrzejczak et al., (5.6 cm) and maximum dimensions varying from 11 to 16 cm [22,25]. These findings are in agreement with those of Ciavattini et al. who noted that black women develop more and larger fibroids than white women [26].

Interstitial myomas were the most found (82%). These data agree with those of Bang Ntamack et al. (75.9%), while for Jeldu et al. they represented 34.7% [14,27].

Because of their deleterious impact, most clinicians agree on the beneficial nature of myomectomy in the presence of a submucosal myoma, before any infertility treatment [28, 29].

Submucosal myomas were present in 53.2% of our patients. Sukur et al. only found this form in 25% of cases [17].

In addition, of the 21 patients who performed the hysterosonography, we found 28.6% of polyps associated with myomas, while the ultrasound had only suspected a third of them. Hence the interest of combining hysterosonography with ultrasound, especially in the presence of abnormal bleeding.

CONCLUSION

At the end of this study, we note that the patient operated on for myoma in our environment describes herself as a relatively old, educated, infertile and nulliparous single person. It is generally a hemorrhagic polymyomatous uterus of large volume, presenting characteristics known to usually have a negative influence on fertility: large size (>9cm), high proportion of submucosal myomas, although the interstitial forms are the most frequent. You have to know how to think about coexistence with polyps, and regularly associate hysterosonography with ultrasound. The association of hemorrhagic fibroma and infertility poses a real dilemma: does myomectomy, a life-saving gesture, not risk deteriorating the subsequent obstetrical prognosis?

Authors Contributions

Study design: Tchente Nguéfack, *Collection of data:* Moussa Gambo, *Article writing:* Ekono, *Proofreading:* Ngaha Yaneu, *Elong, Supervision:* Tchente Nguéfack.

Conflicts of Interest

The authors declare no conflicts of interest

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