

# Echo-Clinical and Therapeutic Comparison for the Management of Uterine Fibroids in the Gynecology-Obstetrics and Medical Imaging Departments of Commune V in the District of Bamako—A Case Report

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## Abstract

**Introduction:** Uterine fibroids (myomas or leiomyomas) are benign tumours and the most common in women of childbearing age. **Objective:** This paper aims to study the concordance between clinical, ultrasound and surgical findings in the diagnosis and management of uterine fibroids. **Observation:** Patient aged 32, married for five (5) years, with menarche at 13, infertility for 3 years, no particular history, and nulliparous, consulted for menorrhagia for 10 days. Examination revealed an abdomino-pelvic mass 24 cm long, hard, irregular, bumpy in places, painless, mobilisable in relation to the skin and deep layers. Vaginal examination revealed an enlarged uterus with irregular contours and a posterior myomatous nucleus filling the cul de sac of Douglas. The trans-parietal ultrasound gave us a general idea of the uterus and the topography of the myomas, and the endovaginal approach gave us a better idea of the characteristics of the different myomas studied by the suprapubic approach. The polmyomectomy proposed, discussed, planned and carried out enabled us to re-



move 11 myomas with diameters ranging from 88 mm to 28 mm.

## Keywords

Uterine Fibroid, Myoma, Metrorrhagia

## 1. Introduction

Uterine fibroids (myomas or leiomyomas) are benign tumours and the most common in women of childbearing age [1]. They are formed by a proliferation of connective cells called fibroblasts, which are added collagen fibres, which are complex proteins [2].

In fact, the prevalence of fibroids is underestimated, as histological data show a double figure that provided by clinical symptoms [3]. Recent longitudinal studies have estimated that the risk of developing a fibroid in a woman aged over 45 is over 60% [3]. In 2009, an international study of 21,746 women aged between 15 and 49 with menstrual haemorrhage reported a prevalence of 7.04% (all ages combined). Fibroids are hormone-dependent tumours; their growth is influenced by ovarian steroids, both estrogens and progesterones, growth factors, androgens and the process of apoptosis.

Hyperoestrogenism favours their growth, which explains why myomas are absent before puberty and degenerate after the menopause [4]. The cause of fibroids is still unknown and their molecular biology does not explain much, but certain risk factors are associated with them, such as high age, black race, obesity, family history, early menarche, nulliparity, infertility, etc. Conversely, the menopause, multiparity, late age at last pregnancy and smoking are thought to be protective factors [5] [6].

Ultrasound remains the reference diagnostic test. The vast majority of myomas are asymptomatic and are diagnosed incidentally during ultrasound or other pelvic imaging (echosonography and hysteroscopy), which are essential for determining the topography and number of fibroids, and for discovering submucosal fibroids that escape clinical examination [7].

Menorrhagia is the most frequent symptom, often complicated by anemia, which is also considered as a source of personal embarrassment for patients [3] [5].

Given the benign nature of fibroid uterine disease, only symptomatic myomas should be managed. The main criterion for choosing the type of treatment is whether or not the patient wishes to retain the possibility of fertility [8].

Given the frequency of uterine fibroids and their impact on obstetric prognosis, the aim of this study is to explain the value of ultrasound in the investigation of uterine fibroids.

## 2. Observation: Our Case

Mrs KC is 32 years old, an agricultural engineer, living in Kalaban Coura, married 5 years ago to Mr MK who is 46 years old, an agricultural engineer, monogamous,

and father of a two (2) years old daughter.

The symptoms began ten (10) days ago with light menorrhagia with clots, without pelvic pain or leucorrhoea, which prompted the consultation at the CSRef. Mrs KC had been undergoing infertility treatment for 3 months with a midwife who ordered an ultrasound scan which revealed uterine fibroids and a hysterosalpingography which was normal, but she lost the results.

- (1) Blood Group: B rhesus positive;
- (2) Known allergies: none;
- (3) She has never had an operation;
- (4) Menarche at thirteen (13);
- (5) Has never used contraception;
- (6) Infertility treatment for 3 months;
- (7) No surgery and no other gynaecological history;
- (8) Second gesture, nulliparous with two spontaneous miscarriages at 6 and 8 weeks' gestation requiring manual intrauterine suction;
- (9) Last menstrual period: 02/06/2023;
- (10) Cycle: regular 32 days;
- (11) No known family disease.

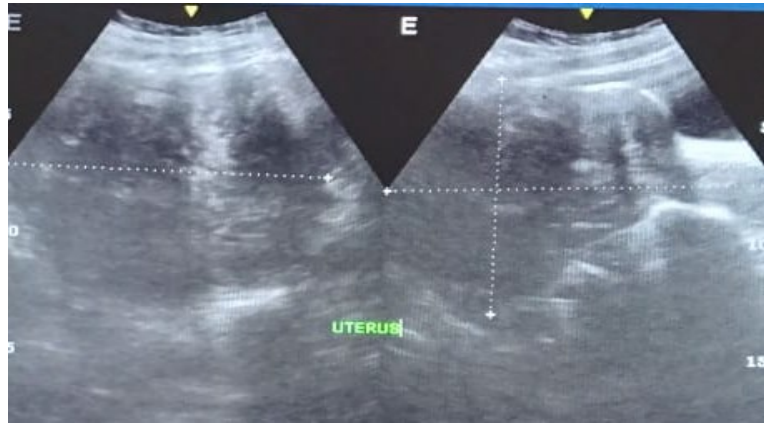
The physical examination revealed good general condition, coloured conjunctivae and integument, free lymph nodes, normal thyroid examination, physiological cardiopulmonary auscultation, normal breasts, enlarged abdomen with palpation of an abdominopelvic mass 24 cm long, hard, with irregular contours, bumpy in places, not painful, mobilisable in relation to the skin and deep tissues. The vulva is clean. Examination with the speculum reveals a healthy right-sided cervix with normal vaginal walls. Vaginal examination revealed a latero-deviate cervix on the right, about 1.5 cm short, firm and closed. The uterus was enlarged like a 26-week pregnancy, with irregular contours and a posterior myomatous nucleus filling the cul de sac of Douglas, making it difficult to mobilise the uterus. The examination glove is clean.

We therefore suspected a polymyomatous uterus and performed a pelvic ultrasound within the department to confirm the diagnosis.

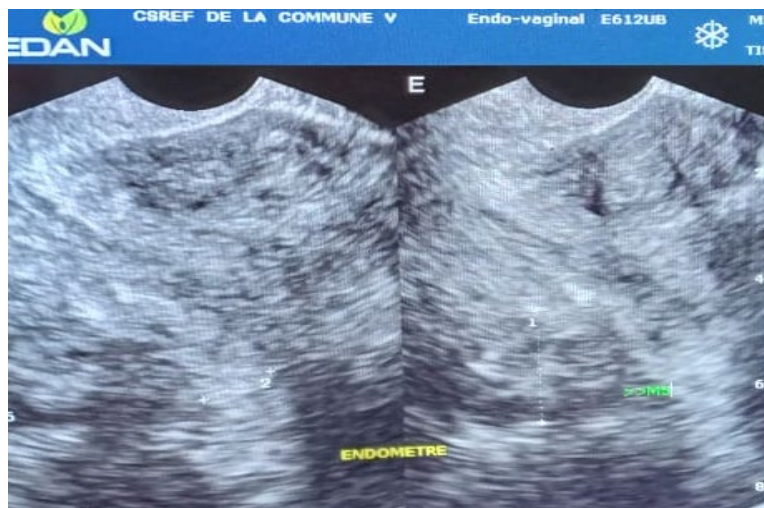
Ultrasound was performed using the EDAN device, first transparietally and then endovaginally. We used a 3.5 MHz transparietal probe (replenishing bladder) and a 6.5 MHz endovaginal probe (empty bladder).

On transparietal ultrasound, on a sagittal midsection, the uterus was empty with an 8 mm endometrium. Once we had a general idea of the uterus and the topography of the myomas, we focused much more on the endovaginal approach in order to better define the characteristics of the different myomas studied by the suprapubic approach. We used different cross-sections in order to better diagnose polymyomatous uteri.

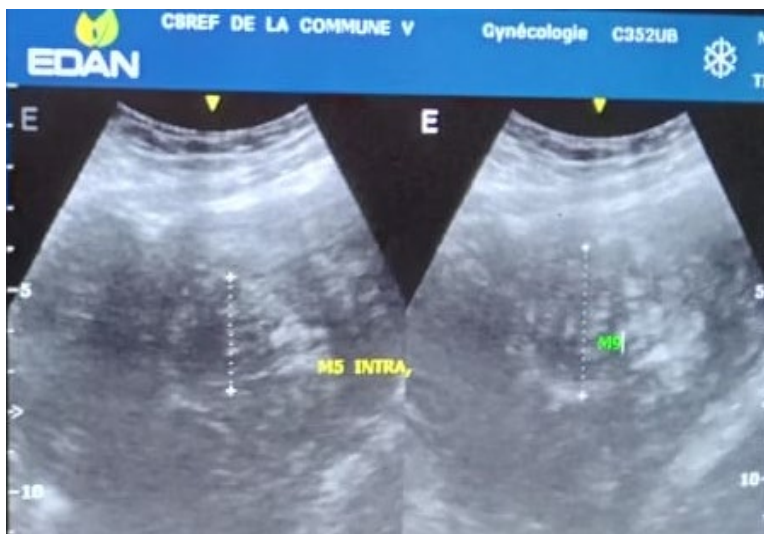
Suprapubic ultrasound revealed an enlarged uterus (112mm x 99mm) with irregular contours and an anterior corporal subserous M1 myoma, the dimensions of which will be described in the following images (**Figures 1-9**).



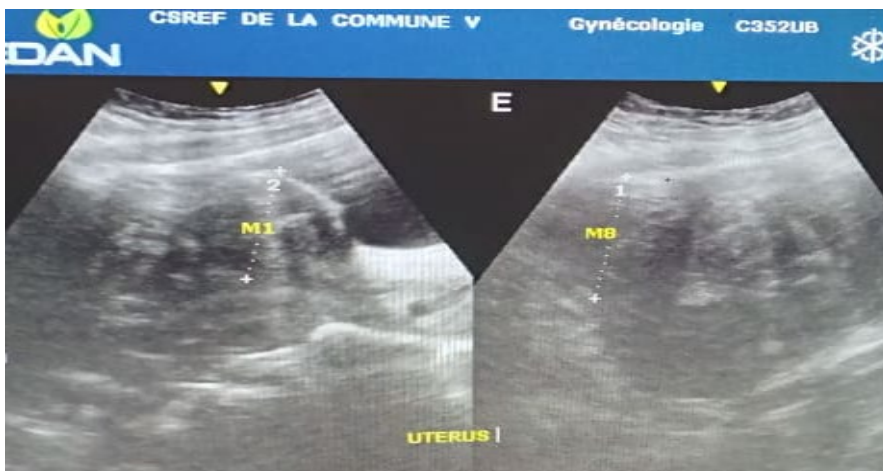
**Figure 1.** Overview of the uterus via the suprapubic approach.



**Figure 2.** Measurement of the endometrium (8 mm) with the presence of an intra-cavity M5 myoma, the dimensions of which will be measured on the next image.



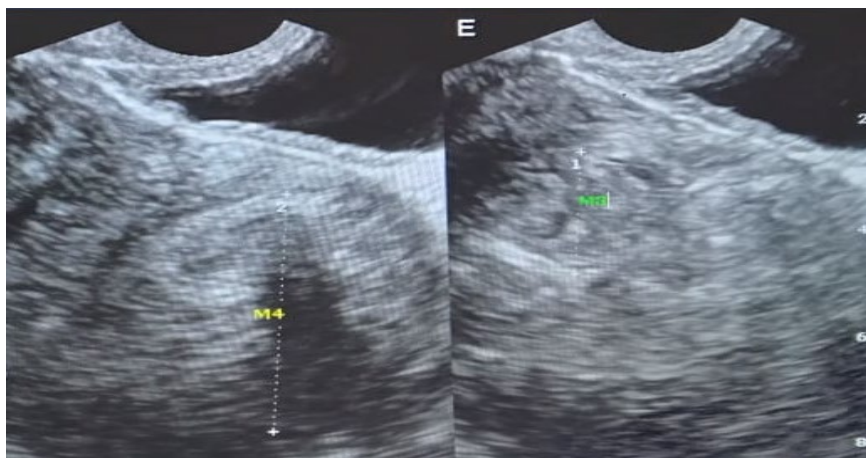
**Figure 3.** Intracavitary M5 myoma 42 mm in diameter and an anterior corporal interstitial M9 myoma 68 mm in diameter.



**Figure 4.** M1 myoma under the anterior corporal serosa measuring 63 mm in diameter and M8 under the posterior corporal-isthmic serosa measuring 70 mm in diameter.



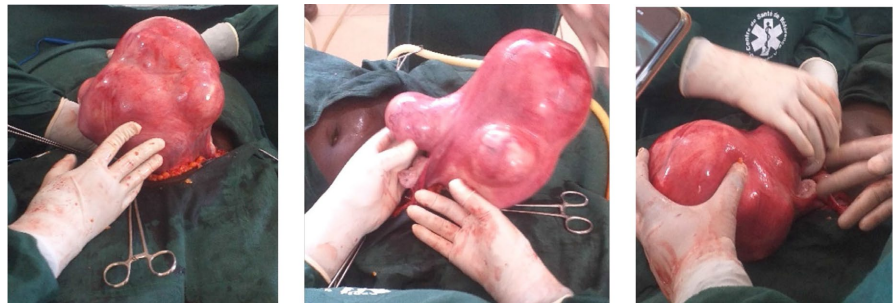
**Figure 5.** Intracavitary M5 myomas 42mm in diameter, posterior isthmic M6 interstitial 59mm in diameter and posterior isthmic M7 interstitial 41mm in diameter. M3 is visible on this image



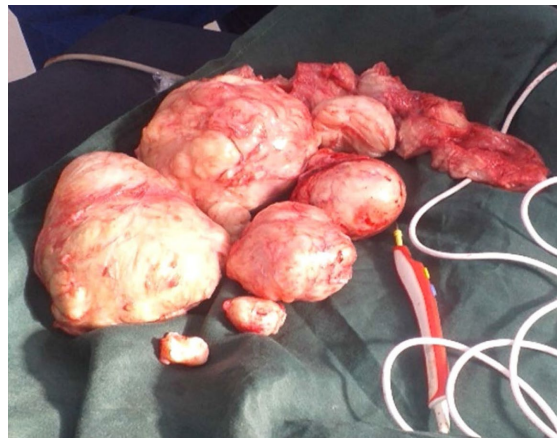
**Figure 6.** M3 anterior corporal interstitial myomas 37 mm in diameter and M4 anterior corporal interstitial myomas 79 mm in diameter.



**Figure 7.** Intracavitary M5 myomas measuring 42 mm in diameter and anterior corporal interstitial M2 myomas measuring 48 mm in diameter.



**Figure 8.** Polymyomatous uterus at laparotomy, anterior face, posterior face and left lateral border.



**Figure 9.** Macroscopic examination of surgical specimens.

CT and MRI scans were not requested.

Our practical approach was to discuss polmyomectomy with Mrs KC. After obtaining her informed consent, we gave her a pre-operative check-up consisting of cervical cancer screening, a biological work-up and an anaesthetic consultation. A voucher for 4 bags of B+ blood was given. She met all the conditions and was scheduled for the operation.

The polmyomectomy performed on June 26<sup>th</sup>, 2023 removed 11 myomas of diameters ranging from 88 mm to 28 mm. The myoma compartments were pad-

ded with satisfactory haemostasis, and the abdominal cavity was cleaned with 0.009% saline. We then closed on different levels and finally proceeded with regular dressing until the surgical wound had healed. The surgical specimens were fixed and sent to the pathology department.

The patient also underwent early mobilisation, antibiotic therapy and three (3) days' preventive heparin therapy.

### 3. Discussion

Uterine fibroids are common in women of childbearing age; our patient is thirty-two (32) years old. This age is comparable to most African studies such as that of SIDIBE A who in 2022 at the Gabriel Touré University Hospital found an age range of 30-39 years (40.28%) with an average age of 38.31 years [9]. The 30 - 45 age group was the most represented in the study by DIALLO M in 2020 at the CS Réf in Commune VI, with a frequency of 75.63% and an average age of 36.87 years [10]. The 31 - 40 age group (43.75%) was found by KONE CH in 2022 in commune IV [11]. The extreme ages ranged from 19 to 75 years in the study by ELOUARDIGHI I in Morocco [12].

Our patient is nulliparous; nulliparity was noted in 55.3% of cases in the study by ELOUARDIGHI I in Morocco [12], 17.43% in the study by DIALLO M [10] and 53.12% by KONE CH in 2022 in commune IV [11].

Myomas remained asymptomatic for a long time in our patient.

Menorrhagia was the reason for consultation in our patient; she had no menometrorrhagia, pelvic pain or anemia, but uterine haemorrhage accounted for 66.3%, pelvic pain 57.2% and bladder problems 18.3% in the study by ELOUARDIGHI I. [12]. In the study by DIALLO M, 97.48% of patients consulted for a pelvic mass [10].

Our patient was infertile. Primary infertility was associated with uterine fibroids in 12.5% of cases in the study by ELOUARDIGHI I in Morocco [12]. In the study by KONE CH in 2022 in commune IV, 21.87% of patients had ovarian cysts associated with myomas and 9.37% were pregnant [11]. The diagnosis of fibroid was confirmed by ultrasound. Ultrasound remains the reference diagnostic test for uterine fibroma.

The topography was consistent with the intraoperative experience.

The number of fibroids intraoperatively was greater than the number seen on ultrasound.

### 4. Conclusion

Uterine fibroids occur in women of childbearing age. It may remain asymptomatic for a long time and then manifest itself as menorrhagia in a context of infertility. A well-conducted clinical examination immediately raises strong suspicion of the diagnosis, based on the size and topography of the myomas. Ultrasound remains the diagnostic tool of choice for uterine fibroids. However, its use requires a number of prerequisites, as well as an operator with proven expertise, in order to ob-

tain a better map and support the clinician in the appropriate course of action.

### Conflicts of Interest

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

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