

# CLINICAL CHARACTERISTICS AND SURGICAL OUTCOMES OF UTERINE FIBROID PATIENTS AT THAI BINH MEDICAL UNIVERSITY HOSPITAL

## ABSTRACT

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**Objective:** To describe the clinical, subclinical characteristics and surgical outcomes of uterine fibroids at Thai Binh Medical University Hospital.

**Method:** The study described through a cross-sectional survey of 250 patients diagnosed with uterine fibroids and operated at Thai Binh Medical University Hospital from 01/01/2020 to 31/12/2023.

**Result:** The median age of patients with uterine fibroids was  $46.04 \pm 5.97$ . There were 44.82% of patients with uterine fibroids because of abdominal pain, 52.37% went to the doctor because of menstrual bleeding. Unusual uterine morphology, including a patient-detected mass, was observed in some cases. There were 1.2% of patients with uterine fibroids with signs of mild and moderate anaemia, and there were no cases of blood transfusions before or after surgery. Patients indicated for planned surgery accounted for 93.6%, the mean fibroid size was  $5.44 \pm 2.34$  cm, and the most common surgical procedure was open myomectomy (87.2%), with there were no intraoperative complications or postoperative complications.

**Conclusion:** Based on the results, it can be concluded that women with uterine fibroids are typically in middle age (average age 46 years), with the most common clinical symptom being lower abdominal pain. The majority of patients presented with mild anemia and were commonly treated with open surgery, with an average hospital stay of approximately 6.5 days. Notably, no complications were recorded.

**Key word:** uterine fibroids, surgical treatment.

## I. INTRODUCTION

Uterine fibroids are benign tumors originating from uterine smooth muscle cells. They occur in 20-25% of women of reproductive age and 70-80% of women aged 50 [1]. Symptoms of uterine

fibroids depend on the location and size of the tumor. Small uterine fibroids are often detected by ultrasound during gynecological examination for infertility, delayed pregnancy, or prenatal care [2]. Common signs in women with uterine fibroids are: menstrual disorders (menorrhagia, metrorrhagia), pain (pelvic pain, dyspareunia, dysmenorrhea). Uterine fibroids increase the rate of infertility, miscarriage, premature birth, and postpartum hemorrhage. Therefore, it is necessary to detect and treat uterine fibroids early [3].

The currently widely used treatment is surgery to remove uterine fibroids. The indication for surgery depends on the severity of clinical symptoms, size, location of the tumor, age, obstetric history, and reproductive plan of the patient. Hysterectomy can be performed through an open abdominal approach, vaginal route, or laparoscopic surgery. Laparoscopic surgery for the treatment of uterine fibroids offers potential benefits such as a smoother postoperative recovery with less pain, reduced antibiotic use, faster recovery, shorter hospital stays, improved aesthetics, and enhanced quality of life. As a result, patients are more likely to accept this surgical method. Therefore, the current adoption rates of laparoscopic surgery in Vietnam and in Thai Binh is steadily increasing.

There have been many studies conducted on this issue domestically and internationally, but no studies have been conducted at Thai Binh Medical University Hospital. Therefore, with the desire to have a comprehensive and in-depth perspective in diagnosis, monitoring, and treatment by surgical methods at Thai Binh Medical University Hospital, we conducted a study titled: "Describing clinical, subclinical characteristics and results of surgical treatment of uterine fibroids at Thai Binh Medical University Hospital from 2020 to 2023", this study aims to characterize the clinical presentation and surgical outcomes of uterine fibroid patients at Thai Binh Medical University Hospital, providing local data to improve clinical management.

## II. SUBJECTS AND METHODS

**Subjects:** Patients diagnosed with uterine fibroids who underwent surgery at Thai Binh Medical University Hospital from 01/01/2020 to 31/12/2023.

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Received date: 4/3/2025

Revised date: 20/3/2025

Accepted date: 25/3/2025

**Selection criteria:**

Patients diagnosed with benign uterine fibroids undergoing surgery at Thai Binh Medical University Hospital.

Agree to participate in the study.

**Study location:** Department of Obstetrics and Gynecology, Thai Binh Medical University Hospital.

**Study time:** From 01/11/2023 to 30/04/2024.

**Study design:** A retrospective cross-sectional descriptive study, selecting all 250 patients with uterine fibroids who underwent surgery at the Department of Obstetrics and Gynecology, Thai Binh Medical University Hospital, to participate in the study.

**Data analysis:** Data were collected, cleaned and entered using REDCAP software. Data were analyzed using SPSS statistical software with medical statistical tests.

**Research ethics:**

The research has been approved by the Scientific Council and the Academic Project Module of Thai Binh University of Medicine and Pharmacy for implementation.

Participants were fully informed about the purpose and did not directly affect the study subjects. Personal information about the subjects was kept confidential by encoding.

**III. RESULTS**

**Study Population Characteristics:**

**Table 1. Distribution of patients by age group in the study**

Age Group	Number (n)	Percentage (%)
< 25	1	0.4
25 - 35	6	2.4
35 - 45	78	31.2
45 - 55	157	62.8
X ± SD (Min - Max)	46.04 ± 5.97 (18 - 64)	

The study found that the average age of the study subjects was 46.04 years. The youngest age was 18, the oldest age was 64. The 45-55 age group accounted for the highest percentage, 62.8%.

**Table 2. Distribution by occupation of patients in the study**

Occupation	Number (n)	Percentage (%)
Cadre	24	9.6
Worker	61	24.4
Farmer	165	66.0
Total	250	100

In the study, the number of patients who were farmers accounted for the highest percentage, 66.0%.

**Clinical and Subclinical Characteristics:**

**Table 3. Reasons for hospitalization of patients in the study**

Clinical symptom	Number (n)	Percentage (%)
Lower abdominal pain, discomfort	143	44.82
Menorrhagia	98	30.70
Metrorrhagia	69	21.67
Patient-detected mass	5	1.56
Incidental finding	4	1.25
Total	250	100

Of the 250 patients indicated for surgical intervention, the following symptoms were recorded: the most common symptom was lower abdominal pain with 143 cases, accounting for 44.82%, and menorrhagia with 98 cases, accounting for 30.7%. Next was metrorrhagia, accounting for 21.67%.

**Table 4. Size of uterine fibroids on ultrasound of patients in the study**

Size of uterine fibroids (cm)	Number (n)	Percentage (%)
< 5	111	44.4
5 - 10	127	50.8
> 10	12	4.8
Total	250	100
$\bar{X} \pm SD$ (Min - Max)	5.44 ± 2.34 (1 - 14.8)	

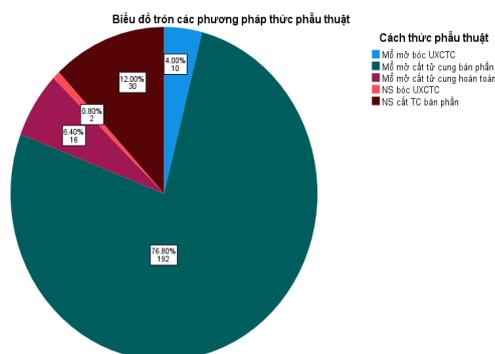
The average size of uterine fibroids in the study sample was 5.44 cm. Tumors from 5 to 10 cm accounted for the highest percentage with 50.8%, tumors smaller than 5 cm ranked second, accounting for 44.4%, only 4.8% of tumors were larger than 10 cm.

**Table 5. Anemia classification of patients in the study**

Anemia classification	Number (n)	Percentage (%)
No anemia	167	66.8
Mild anemia	60	24.0
Moderate anemia	22	8.8
Severe anemia	01	0.4
Total	250	100

The results table shows that patients with uterine fibroids who did not have anemia accounted for 66.8%. The percentage of patients with mild anemia was 24.0%, while moderate and severe anemia accounted for a low percentage, 8.8% and 0.4%, respectively.

**Treatment Results**



**Figure 1. Percentage of common surgical methods**

There were 192 cases of open surgery with subtotal hysterectomy, accounting for 76.8%. Laparoscopic myomectomy was performed in only 2 cases, accounting for the lowest percentage of 0.8%.

Table 6. Surgical methods in patients in the study (n = 250)

Methods	Surgical		Laparoscopic Surgery		Open Surgery	
	n	%	n	%	n	%
Myomectomy	02	0.8	10	4.0		
Subtotal Hysterectomy	30	12.0			192	76.8
Total Hysterectomy	0	0.0			16	6.4
Total	32	12.8			218	78.2

The percentage of patients undergoing open subtotal hysterectomy was the highest at 76.8%. The percentage of patients undergoing laparoscopic myomectomy was the lowest at 0.8%. No patients underwent laparoscopic total hysterectomy.

**Table 7. Hospital stay duration of patients in the study (n = 250)**

Surgical methods Hospital stay duration	Laparoscopic Surgery		Open Surgery	
	n	%	n	%
≤ 4 days	03	9.37	02	0.92
5 - 7 days	27	84.38	191	87.61
> 7 days	02	6.25	25	11.47
Total	32	100	218	100

In the study, the main hospital stay duration of patients: 5 to 7 days was the highest, 84.38% and 87.61%.

#### IV. DISCUSSION

##### General characteristics of the study subjects:

The results of the study show that the average age of the study subjects was  $46.04 \pm 5.97$  years, the youngest was 18 years old, and the oldest was 64 years old. This is comparable to the age of patients with uterine fibroids in other domestic and foreign studies, such as the study by Ha Van Huy et al [3] at 103 Military Hospital in 2022, which found an average age of  $46.01 \pm 4.87$  years. Other studies with similar findings include those by Le Thi Thao [4] at the Department of Obstetrics and Gynecology, E Central Hospital in 2021 ( $44.2 \pm 5.8$  years) and Nguyen Thi Thu [5] at Thanh Nhan Hospital in 2020 ( $46.5 \pm 3.7$  years). This age range is also consistent with the typical age of onset for uterine fibroids in the medical literature.

The youngest age with uterine fibroids was 18, similar to the study by Duong Duc Thang [6] at the National Hospital of Obstetrics and Gynecology in 2021, which found the youngest age to be 17. This highlights the potential impact of uterine fibroids on fertility in young women. Uterine conservation is of great significance for reproductive function and quality of life for women in this age group.

Uterine fibroids are common between the ages of 35 and 50 and regress during menopause, so uterine fibroids are less common in menopausal women. However, in this study, the oldest age with uterine fibroids was 64, higher than the study by Duong Duc Thang et al [6] at the National Hospital of Obstetrics and Gynecology in 2021, which found the oldest age to be 50. This was a case of a large uterine fibroid with complications of genital prolapse causing discomfort for the patient, who was indicated for open total hysterectomy.

The study found that the majority of patients (80%) lived in rural areas. This suggests that

patients in rural areas tend to be diagnosed with uterine fibroids later than those in urban areas, resulting in a higher rate of surgical intervention. This is consistent with the demographics of Thai Binh, a province with a predominantly agricultural economy.

##### Clinical and subclinical characteristics of the study subjects:

According to the results in Table 3, among the 250 patients indicated for surgical intervention, the clinical symptoms upon admission were recorded as follows: the most common symptom was lower abdominal pain, present in 143/250 cases (44.82%). These are common symptoms in patients with large uterine fibroids, where the large tumor compresses the pelvic area, leading to lower abdominal pain. This was followed by menorrhagia in 98/250 cases (30.7%) and metrorrhagia in 69/250 cases (21.67%). These results are similar to the study by Dong Thi Thao [7] which found that the number of patients diagnosed with uterine fibroids due to lower abdominal pain accounted for the largest proportion (87.9%), followed by menorrhagia and metrorrhagia (78.8%). Similarly, the study by Phung Trong Thuy [8] also reported that 93.7% of the study subjects went to the hospital for lower abdominal pain, accounting for the largest proportion, followed by menorrhagia and metrorrhagia, accounting for 49.7%. This shows that the majority of people often only go for medical examination and testing when they have clinical symptoms and do not have the habit of having regular health check-ups, so the rate of detection of uterine fibroids due to symptoms of lower abdominal pain, menorrhagia, and metrorrhagia is still high.

Statistics show that 1.56% of patients had large tumors. Table 4 shows that out of a total of 250

patients with uterine fibroids treated surgically, uterine fibroids sized 5-10 cm accounted for the highest percentage (50.8%), followed by uterine fibroids sized < 5 cm (44.4%). Uterine fibroids sized > 10 cm accounted for a much lower percentage (4.8%). The average size of uterine fibroids was 5.44 cm, the smallest tumor size was 1 cm, and the largest tumor size was 14.8 cm.

The low percentage of large uterine fibroids treated surgically as above may be because most tumors have manifested clinical symptoms at smaller sizes, causing patients to seek medical attention and be diagnosed. This also reflects the good awareness and concern for health of the majority of patients by seeking examination and treatment before the tumor grows too large. The significantly low percentage of large uterine fibroids also partly explains the almost non-existent percentage of palpable masses, the low prevalence of anemia due to bleeding on admission, and the absence of complications during surgery in this study. [cite: 76] This is an encouraging result, but it can be further reduced by measures such as encouraging people to have regular health check-ups and raising awareness among people, especially women, about uterine fibroids.

Compared with the results of the study by Bui Minh Tien [9] (2022) at Thai Binh Obstetrics and Gynecology Hospital on patients undergoing total laparoscopic hysterectomy for uterine fibroids between 2020-2021, the size of the tumor detected on ultrasound in the two groups of patients was similar. In the above study by Bui Minh Tien, the percentage of uterine fibroids sized 5-8 cm also accounted for the highest percentage (46.1%), followed by the percentage of uterine fibroids under 5 cm (43.5%), and significantly lower was uterine fibroids larger than 8 cm (10.5%). The similarity in the two results obtained (in the same time period, at two hospitals located in Thai Binh province) reflects the epidemiological characteristics of uterine fibroid size in the Thai Binh population: uterine fibroids mainly cause clinical symptoms, are detected and treated surgically when the size is still under 8 cm.

Compared with other localities, such as in the study by Nguyen Thi Thu [5] at Thanh Nhan Hospital, Hanoi (2021) on 108 patients undergoing total laparoscopic hysterectomy for uterine fibroids in 2020, the tumor size was significantly smaller than the two studies in Thai Binh mentioned above:

the percentage of uterine fibroids smaller than 5 cm accounted for 65.7%, double the percentage of uterine fibroids larger than 5 cm (34.3%). This difference may be due to the better healthcare system and medical care services in Hanoi, as well as better awareness and conditions of the people, facilitating regular health monitoring, which helps to increase the ability to detect uterine fibroids early, when the tumor is still small, for timely treatment.

Table 5 shows the classification of anemia levels at the time of admission for the total of 250 patients treated surgically for uterine fibroids in the study. Of these, the percentage of patients with uterine fibroids who did not have anemia was 66.8%. The percentage of patients with mild anemia was 24%, while moderate and severe anemia accounted for low percentages, 8.8% and 0.4%, respectively. Assessing the correlation with clinical symptoms, it was found that the percentage of cases with anemia was 33.2%, corresponding to the percentage of menorrhagia symptoms, which was 30.7%.

The results obtained are also similar to the results of the study by Bui Minh Tien [9] (2022) at Thai Binh Obstetrics and Gynecology Hospital on patients undergoing total laparoscopic hysterectomy for uterine fibroids between 2020-2021. The percentage of patients without anemia in the study by Bui Minh Tien was 68.7%, mild anemia accounted for 14.8%, moderate anemia accounted for 13.0%, and severe anemia accounted for 3.5%.

#### **Treatment outcomes of the study subjects**

In our study, patients with uterine fibroids were mainly treated surgically: 93.6%. Of these, open surgery accounted for 87.2% and laparoscopic surgery was 12.8%. The rate of subtotal hysterectomy in both surgical methods was 76.8% and 12%, respectively. The rate of myomectomy was 4% and 0.8%, respectively. The rate of total hysterectomy was 6.4% and 0%, respectively.

Compared with the results of the study by Phung Trong Thuy [8] (Tuyen Quang - 2021) with a rate of elective surgery of 59.8%, emergency and delayed emergency surgery was 40.2%. Of these, open surgery accounted for 94.2% and the surgical method of myomectomy was used frequently (26.9%), subtotal hysterectomy (34.4%), and total hysterectomy (38.7%).

From the above results, we can see that at Thai Binh Medical University Hospital, the rate of open surgery is very high, and the myomectomy method

is also not widely applied in clinical practice, especially laparoscopic myomectomy, which accounts for the lowest rate (0.8%), this is because it is a difficult technique that can easily cause a lot of bleeding. In our study, the rate of open surgery was significantly higher than in studies by other authors because the number of surgeons with laparoscopic surgery certification and proficiency in laparoscopic techniques was limited. For this reason, clinical treatment decisions at Thai Binh University Hospital may be affected. Therefore, it is necessary to enhance training to improve the laparoscopic surgery skills of clinical doctors, thereby increasing the indication and utilization of laparoscopic surgery for fibroid removal.

In our study, subtotal hysterectomy was primarily used. This method predominates clinically in both open and laparoscopic surgery at Thai Binh Medical University Hospital. This difference is largely due to the difference in the number of emergency surgeries in the two studies. Compared to 40.2% of emergency surgeries by Phung Trong Thuy [8], at Thai Binh Medical University Hospital, it only accounted for 6.4%. This clearly shows that in Thai Binh in recent years, people have paid more attention to health, increased the importance of regular health check-ups, and sought early medical attention when detecting abnormal symptoms.

According to Table 7, the average hospital stay was  $6.51 \pm 0.152$  days, the shortest was 2 days, and the longest was 10 days. Patients with uterine fibroids mainly had a postoperative hospital stay of 5-7 days, accounting for 84.375% in laparoscopic surgery and 87.5% in open surgery. The average postoperative hospital stay for open surgery was  $6.61 \pm 1.15$  days, longer than laparoscopic surgery, which was  $5.875 \pm 1.16$  days.

This study has relatively similar results to the study by Bui Minh Tien [9] (2022 with an average hospital stay of  $5.8 \pm 0.6$  days, the shortest being 4 days and the longest being 10 days. The main postoperative hospital stay was 4-5 days, accounting for 75.7%, no cases were hospitalized for less than 3 days, and 24.3% of patients were hospitalized for more than 5 days postoperatively. However, this result is longer than the study by Luu Ba Hung [10] (2022) with an average postoperative hospital stay of  $5.1 \pm 0.9$  days, the shortest being 3 days and the longest being 12 days, the main hospital stay being 4-5 days, accounting for 84.5%.

The difference in postoperative hospital stay may be due to the higher percentage of patients undergoing laparoscopic surgery in the study by Luu Ba Hung compared to this study, resulting in a shorter postoperative hospital stay. The result of  $p < 0.05$  is statistically significant, showing that the choice of open or laparoscopic surgery affects the patient's hospital stay. The number of cases hospitalized for less than 4 days in both methods was low, which may be explained by the patient's or family's desire for early discharge. Whether choosing open surgery or laparoscopic surgery, the majority of patients have a normal hospital stay of 5-7 days. In cases of hospitalization for more than 7 days, the number of open surgery cases was higher than laparoscopic surgery, which may be related to infection requiring continued antibiotic use in the patient.

**Study Limitations:** This study is limited by its design, which focuses on a single center - Thai Binh University Hospital. This may restrict the generalizability of the findings to a larger patient population.

## V. CONCLUSION

- The average age of patients with uterine fibroids was  $46.04 \pm 5.97$  years.

- The most common clinical symptom was lower abdominal pain, occurring in 44.82% of cases, followed by menorrhagia (30.7%) and metrorrhagia (21.67%).

- The rate of mild anemia among patients was 24%, while moderate and severe anemia were less common, at 8.8% and 0.4%, respectively. No patients required a blood transfusion before, during, or after surgery.

- Open surgery accounted for the majority of cases (87.2%), while laparoscopic surgery was performed in 12.8% of cases.

- The average hospital stay was  $6.51 \pm 0.152$  days.

- There were no surgical complications or postoperative complications.

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