EVALUATION OF SURGICAL OUTCOMES FOR UTERINE FIBROIDS AT NGHE AN FRIENDSHIP GENERAL HOSPITAL

Dinh Thi Van Anh[1], Le Thi Thanh Tam[2] and Nguyen Tuan Minh[3,✉]

[1]Nghe An Friendship General Hospital

[2]Vinh Medical University

[3]Hanoi Obstetrics and Gynecology Hospital

This cross-sectional descriptive study was conducted to evaluate the surgical outcomes for uterine fibroids at Nghe An Friendship General Hospital. 590 patients diagnosed with uterine fibroids who underwent surgery at Nghe An Friendship General Hospital were included in the study. The mean age in our study was 47.33 ± 5.64 years old, with the oldest patient being 70 and the youngest being 30. The 41 – 50 age group represented 61.5%, where the 46 – 50 age subgroup was the most prevalent (38.6%). Laparoscopic surgery was the predominant method (68.8%). The conversion rate from laparoscopy to laparotomy was very low (4.1%); the most common reason for conversion was the presence of adhesions combined with large tumor size (58.3%). Total hysterectomy was the most frequently applied procedure at 71.0%, followed by myomectomy at 15.1% and subtotal hysterectomy at 13.9%. The ovaries and fallopian tubes were preserved in the majority of cases (86.3%). The rate of intraoperative and postoperative blood transfusion was low. Intraoperative and postoperative complications were rare. Uterine fibroids are common in the 41 - 50 age group. Most patients undergo laparoscopic surgery. Total hysterectomy is the most selected surgical method.

Keywords: Uterine fibroids, total hysterectomy, conversion to laparotomy.

I. INTRODUCTION

Uterine fibroids (leiomyomas), the most common benign tumors in women of reproductive age, are the leading indication for hysterectomy. The incidence rate varies from 20% to 70% depending on the diagnostic method and study population, with the majority of patients being diagnosed after symptoms have appeared or the disease has progressed (Liu 2021, Stewart 2024).[1,2] Approximately 20 – 50% of patients present with clinical symptoms such as menometrorrhagia, heavy menstrual bleeding, anemia, and pelvic pain or pressure. Uterine fibroids can also compress surrounding structures, causing mass-related symptoms involving the bowel (constipation), bladder (urinary frequency, urgency, or retention), and vagina (dyspareunia).[1]

International studies indicate that although the development of conservative and minimally invasive techniques has transformed clinical practice, hysterectomy remains the dominant procedure in many contexts. Stewart (2024) and Liu (2021) affirm that the rate of hysterectomy remains high, particularly among women who have completed childbearing.[1,2]

At Nghe An Friendship General Hospital, over 4,000 patients were diagnosed with uterine fibroids annually, with 400 – 600 cases indicated for surgery. However, there is currently no standardized protocol for selecting surgical methods, and clinical practice tends to focus on tumor management rather than a

Corresponding author: Nguyen Tuan Minh
Hanoi Obstetrics and Gynecology Hospital
Email: tuanmin0306@gmail.com
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comprehensive approach based on patient characteristics and long-term treatment goals. Therefore, a thorough evaluation of current surgical outcomes is essential to identify trends, highlight challenges, and guide the optimization of treatment protocols. We conducted this study, "Evaluation of Surgical Outcomes for Uterine Fibroids at Nghe An Friendship General Hospital," with the objective of assessing the surgical outcomes for uterine fibroids at this institution.

2. MATERIALS AND METHODS

1. Subjects

The study included patients diagnosed with uterine fibroids who were indicated for surgery at Nghe An Friendship General Hospital during the study period.

Inclusion Criteria: Patients meeting all of the following criteria were included:

Underwent surgery for uterine fibroids.

Had a postoperative histopathological result confirming uterine fibroids.

Exclusion Criteria

Concurrent pregnancy with uterine fibroids at the time of admission.

Concomitant malignancies such as ovarian or cervical cancer.

Incomplete medical records for research purposes.

2. Methods

Study Design

Design: A cross-sectional descriptive study.

Sample Size and Method: A convenience sampling method was used. A total of 590 patients who met the inclusion and exclusion criteria during the study period were included.

Time and Location

Time: From January 1, 2024, to December 31, 2024 (data collection and processing from January 2024 to June 2025).

Location: Nghe An Friendship General Hospital.

Data Collection

Data were collected from medical records. The collected data were cleaned, verified, and processed according to the study objectives.

Variables and Indicators

Age, BMI, parity, clinical symptom profile.

Fibroid characteristics (number, maximum diameter, FIGO classification).

Surgical approach: Laparoscopy, laparotomy, laparoscopy converted to laparotomy.

Reason for conversion: Adhesions, large tumor size, blood loss.

Surgical method: Myomectomy, total hysterectomy, subtotal hysterectomy, adnexal procedure.

Intraoperative and postoperative complications.

Blood transfusion requirements (preoperative, intraoperative, postoperative).

Data Processing and Analysis

The data were cleaned and analyzed using SPSS version 20.00.

3. Research ethics

This study utilized data solely from medical records and did not involve direct patient interaction; therefore, it did not violate research ethics. The study was approved by Nghe An Friendship General Hospital and the Thesis committee of Hanoi Medical University.

III. RESULTS

The mean age in our study was 47.33 ± 5.64 years old, with the oldest patient being 70 and the youngest 30. The 41 – 50 age group accounted for 61.5%, where the 46 – 50 age subgroup was the most prevalent (38.6%). Patients over 50 years old comprised 28.0% of the sample, while the under-40 age group was the least common (10.5%)

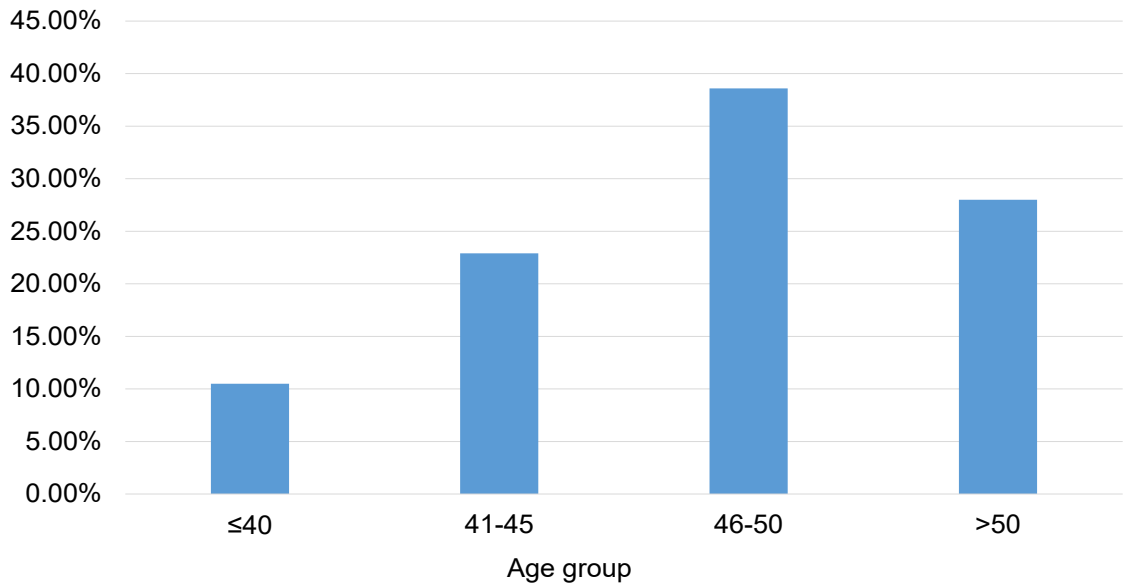

Chart 1. Age Distribution of the Study Population

Chart 2. Abdominal Entry Method and Reasons for Conversion to Laparotomy

The results indicate that laparoscopic surgery was the predominant method (68.8%). Laparotomy was performed in 27.1% of cases, while the rate of conversion from laparoscopy to laparotomy was very low (4.1%). The most common reason for conversion was the presence of adhesions combined with large tumor size, accounting for 58.3% of conversions. Adhesions alone accounted for 29.2%, while other reasons were less frequent (12.5%).

Table 1. Surgical Procedures

Surgical Procedure	n (590)	% (100)
Tumor Management		
Myomectomy	89	15.1
Subtotal Hysterectomy	82	13.9
Total Hysterectomy	419	71.0
Adnexal Management		
Adnexa Preserved	510	86.3
Unilateral Salpingo-oophorectomy	70	11.9
Bilateral Salpingo-oophorectomy	10	1.7

Among the 590 cases, total hysterectomy was the most frequently performed procedure (71.0%), while myomectomy accounted for 15.1% and subtotal hysterectomy for 13.9%. Regarding the adnexa, they were preserved in the majority of patients (86.3%), with only 11.9% undergoing unilateral adnexal removal and very few cases requiring bilateral adnexal removal (1.7%).

Table 2. Characteristics of Patients Converted from Laparoscopy to Laparotomy

Characteristic	n (24)	% (100)
Uterine Size		
Normal	1	4.2
< 8 weeks	3	12.5
8 – 12 weeks	17	70.8
> 12 weeks	3	12.5
Uterine Mobility		
Normal	3	12.5
Limited	20	83.3
Immobile	1	4.2
Fibroid Location (FIGO)		
L0–2	1	4.2
L3–5	21	87.5
L6–7	2	8.3

Among the 24 patients who were converted from laparoscopic to laparotomy, the majority had a uterine size equivalent to 8 – 12 weeks of gestation (70.8%), limited uterine mobility (83.3%), and fibroids located predominantly in the uterine wall (L3–5, 87.5%). These factors may have contributed to the difficulty of laparoscopic surgery, leading to the decision to convert to an open procedure.

Table 3. Rate of Preoperative, Intraoperative, and Postoperative Blood Transfusion

Surgical Procedure	Preoperative Transfusion		Intraoperative Transfusion		Postoperative Transfusion	
	n	%	n	%	n	%
Myomectomy (n = 89)	17	19.1	7	7.9	0	0
Subtotal Hysterectomy (n = 82)	21	25.6	0	0	0	0
Total Hysterectomy (n = 419)	81	19.3	18	4.3	14	3.3
Total (n = 590)	119	20.2	25	4.2	14	2.4

Preoperative blood transfusion had the highest rate (20.2%), primarily in the total hysterectomy group. Intraoperative and postoperative transfusions were less frequent (4.2% and 2.4%, respectively).

IV. DISCUSSION

According to Chart 1, the mean age of our study participants was 47.33 ± 5.64 years old, with the oldest being 70 and the youngest 30. The 41 – 50 age group had the highest prevalence (61.5%), with the 46 – 50 subgroup being the most common (38.6%). This finding is consistent with a study by Nguyen Thi Hong on uterine fibroids at Thai Nguyen Hospital A, which reported a mean age of 42.02 ± 6.77 years old, with the most affected age group being over 40 (73.3%).[3] Nguyen Thanh Xuan (2025) reported similar results, with a mean age of 40.9 ± 6.1 years old.[4]dimensions, and positioning of the tumor are critical considerations in determining the appropriate surgical approach. In recent years, laparoscopic myomectomy has become a common procedure, offering numerous benefits. Consequently, we conduct the study which aims to demonstrate the clinical and paraclinical characteristics as well as the outcomes of laparoscopic myomectomy.\nMaterials and methods: A cross-sectional follow-up descriptive study involving 130 patients with uterine fibroids who underwent laparoscopic myomectomy at Hue Central Hospital from April 2022 to April 2024.\nResults: The predominant clinical manifestations observed were an increase in tumor size and abnormal uterine bleeding. A majority of the cases involved 1 to 2 fibroids (96.9% Thus, patients undergoing surgery for uterine fibroids are predominantly in the 40 – 50 age range, a time when they have typically completed childbearing and present with severe symptoms requiring intervention. This is also a prognostic factor in surgical decision-making, as the rates of total and subtotal hysterectomy increase with age.

As shown in Chart 2, laparoscopic surgery was the predominant method (68.8%) , while laparotomy was performed in 27.1% of cases. The conversion rate from laparoscopy to laparotomy was very low (4.1%). This result reflects the challenges often encountered in laparoscopic surgery in patients with a history of pelvic inflammatory disease, previous abdominal surgery, large uterine fibroids, or fibroids in difficult-to-access locations. Analysis of the characteristics of patients requiring conversion to open surgery revealed that the majority had a large uterus (> 8 weeks gestational size, 83.3%). Furthermore, 87.5% of these patients had limited or no uterine mobility, indicating this is a significant risk factor influencing the decision to convert the surgical approach. Notably, fibroid location according to the FIGO classification was concentrated in the L3–5 group (87.5%), which is known to pose challenges for dissection and hemorrhage control during laparoscopy. In two cases (8.3%), preoperative ultrasound assessed the fibroids as L6-7, but intraoperatively they were found to be intraligamentary (L8), necessitating conversion. Comparable to other domestic reports, Phung Trong Thuy (2021) (3.1%) and Dang Thi Hong Thien (2025) (4.1%) both recorded similar results, in which large uterine size, pelvic adhesions, or tumors in difficult locations are the main predictive factors for conversion to open surgery.[5,6]

Based on the results in Table 1, among the 590 cases, total hysterectomy was the most applied procedure (71.0%), while myomectomy accounted for 15.1% and subtotal hysterectomy for 13.9%. The patients in this study were mostly over 40 years old, with a mean age of 47.33 ± 5.64, and the majority had two or more children, indicating they had completed childbearing. A large proportion of participants had large fibroids equivalent to an 8 – 12 week gestation (77.2%), multiple fibroids, and tumor sizes often exceeding 5 cm (66.9%) or even 10cm (23.6%),

which are unfavorable factors for conservative surgery due to risks of blood loss, adnexal adhesions, and high recurrence rates. Our results are comparable to Tran Quang Tuan (2024), with a subtotal hysterectomy rate of 67.3% and a total hysterectomy rate of 23.7%.[7] The rates for subtotal hysterectomy (34.4%) and total hysterectomy (38.7%) reported by Phung Trong Thuy (2021) were lower than our study.[5] This difference may be explained by regional variations in clinical practice, patient characteristics such as delayed presentation, and the availability of alternative treatments. Furthermore, the limited availability and accessibility of less invasive, uterus-preserving alternatives such as Uterine Artery Embolization (UAE) or High-Intensity Focused Ultrasound (HIFU) at the institution during the study period may contribute to the higher rate of definitive surgical management. While not formally assessed in this study, the clinical decision-making process is also influenced by patient preference. Many women in this age group who have completed childbearing may opt for a definitive treatment to eliminate symptoms and the risk of recurrence, a factor that should be explored in future qualitative studies. Regarding the ovaries and fallopian tubes , they were preserved in the majority of patients (86.3%), with only 11.9% undergoing unilateral removal and very few (1.7%) requiring bilateral removal. This trend aligns with current recommendations to maintain hormonal function and reduce the risk of osteoporosis, cardiovascular disease, and metabolic disorders post-menopause, especially in women under 50.

Preoperative blood transfusion was most common (20.2%), primarily in the total hysterectomy group. Intraoperative and postoperative transfusion rates were lower (4.2% and 2.4%, respectively). This reflects the patient demographics at Nghe An Friendship General Hospital, where patients often presented late with severe symptoms and large tumors, leading to a high risk of preoperative anemia. Additionally, a proportion of patients had systemic comorbidities such as chronic kidney disease or were on anticoagulant therapy, which exacerbated the anemia. The low rates of intraoperative and postoperative blood transfusion indicated minimal actual blood loss during surgery, reflecting high surgical quality, experienced surgeons, effective hemostatic techniques, and appropriate selection of surgical methods for each patient.

Intraoperative and postoperative complications were generally infrequent. There was a 0.3% incidence of ureteral injury, 0.5% of vaginal cuff bleeding, and 0.5% of postoperative infection. A detailed analysis of these cases revealed that the two ureteral injuries occurred in patients whose fibroids were preoperatively assessed as subserosal but were found intraoperatively to be intraligamentary, extending deep into the pelvic floor and adhering firmly, thus distorting the ureter's course and complicating the surgery. The three patients with vaginal cuff bleeding had severe underlying conditions, such as renal failure requiring dialysis or mechanical heart valves requiring anticoagulant therapy. The patient with an infection had underlying medical comorbidities like diabetes mellitus. These findings highlight the importance of thoroughly assessing tumor characteristics and underlying patient comorbidities to plan the most appropriate surgical approach, thereby enhancing safety and ensuring optimal treatment outcomes.

V. CONCLUSION

This study successfully evaluated the surgical outcomes for uterine fibroids at Nghe

An Friendship General Hospital. The mean age of patients undergoing surgery for uterine fibroids was 47.33 ± 5.64 years old, with the 41 – 50 age group being the most common (61.5%). Laparoscopic surgery was the predominant approach (68.8%). The conversion rate to laparotomy was low (4.1%), primarily due to large tumor size (58.3%). Total hysterectomy was the most frequently performed procedure (71.0%). The ovaries and fallopian tubes were preserved in the majority of patients (86.3%). The rate of preoperative blood transfusion was 20.2%, while intra- and postoperative transfusion rates were low (4.2% and 2.4%, respectively). The rate of complications was very low.

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