Original Article

Pathological and Histopathological Findings with Complications in Fibroid Uterus

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ABSTRACT

Introduction: *Uterine leiomyomas, commonly known as fibroids, represent a significant health concern among women, affecting their reproductive health and overall well-being. This study aims to provide a comprehensive understanding of the clinical characteristics, associated complications, and surgical outcomes in patients with fibroid uterus.* ***Methods and materials:*** *50 patients with fibroid uterus were studied patients; they were admitted from Rangpur Medical College & Hospital's outpatient department of gynecology and obstetrics between March 2011 and March 2012. The age distribution, parity, age of the last child, associated pathologies, histopathological findings, postoperative complications, and hospital stays were analyzed. Data were collected through patient records, surgical reports, and postoperative follow-up assessments.* ***Results:*** *The study revealed a diverse age distribution, with 36% of patients aged 41-50 years and 60% between 31-40 years. Parity analysis demonstrated that 48% of patients belonged to para 3-5 group. Associated pathologies included multiple ovarian cysts (26%), pelvic inflammatory disease (8%), and endometriosis (4%). Histopathological findings indicated that 56% had simple leiomyoma, 12% had leiomyoma with endometrial hyperplasia, and 12% had leiomyoma with adenomyosis. Postoperative complications were observed in 14 patients, with 12%*

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experiencing pyrexia, 12% urinary tract infection, and 4% wound infection. Hospital stays varied, with 60% of patients staying 6-8 days ***Conclusion:*** *The prevalence of diverse histopathological findings highlights the complexity of these cases. Additionally, the identification of postoperative complications emphasizes the importance of thorough follow-up care. This research contributes to the existing knowledge on fibroid uterus, aiding healthcare professionals in the effective management and treatment of this common gynecological condition.*

Keywords: *Uterine fibroids, Pathology, Histopathology, Leiomyomas, adenomyosis.*

INTRODUCTION

Uterine fibroids, also known as leiomyomas or myomas, are the most common benign tumors of the female reproductive system, affecting a significant portion of women during their reproductive years [1]. These non-cancerous growths originate from the smooth muscle cells of the uterus and can vary in size, location, and number. While many women may remain asymptomatic, a subset of individuals experiences a spectrum of clinical manifestations, ranging from abnormal uterine bleeding and pelvic pain to reproductive complications [2-3]. Understanding the pathological and histopathological findings associated with fibroid uterus is crucial for developing effective diagnostic and therapeutic strategies [4].

Pathologically, uterine fibroids are characterized by the excessive proliferation of smooth muscle cells within the uterine wall [5]. The tumors can manifest as solitary or multiple growths, ranging from small nodules to large masses that distort the normal uterine architecture. The exact etiology of fibroid development remains elusive, but genetic, hormonal, and environmental factors are thought to contribute to their initiation and progression [6-7]. Hormonal influences, particularly estrogen and progesterone, play a significant role in fibroid growth, as evidenced by the increased prevalence during the reproductive years and regression post-menopause [8].

Histopathological examination of fibroid tissue provides invaluable insights into the cellular composition, architectural changes, and associated complications. Microscopically, fibroids are composed of interlacing bundles of smooth muscle cells, surrounded by varying amounts of collagenous stroma [9]. The classification of fibroids includes subtypes such as intramural, submucosal, and subserosal, each with distinct histological features [10]. Submucosal fibroids, for instance, may protrude into the endometrial cavity, leading to abnormal bleeding and infertility issues. In contrast, subserosal fibroids can cause pelvic pain and exert pressure on surrounding structures [11-12].

Complications arising from fibroid uterus can significantly impact a woman's reproductive health and overall well-being [12]. Abnormal uterine bleeding, a hallmark symptom, often leads to anemia and diminished quality of life. Additionally, the pressure effects of larger fibroids on adjacent structures may result in pelvic pain, urinary symptoms, and constipation [13]. Submucosal fibroids are associated with infertility and recurrent pregnancy loss, as they can interfere with implantation and disturb the normal architecture of the endometrium [14].

Furthermore, the impact of fibroids on pregnancy is a subject of considerable concern. Fibroids can affect fertility by disrupting the normal uterine anatomy, altering blood flow, and creating a hostile environment for implantation [15]. Pregnancies complicated by fibroids are at an increased risk of adverse outcomes, including preterm birth, malpresentation, and the need for cesarean section. Understanding these complications is crucial for implementing appropriate management strategies, ensuring optimal maternal and fetal outcomes [16].

Uterine fibroids represent a common and clinically significant condition affecting women of reproductive age [17]. A comprehensive understanding of the pathological and histopathological findings associated with fibroid uterus is essential for informing diagnostic approaches and developing targeted therapeutic interventions [18]. In subsequent sections, this study specific pathological and histopathological aspects of fibroids, exploring their diverse presentations and the implications for clinical management.

METHODS & MATERIALS

The investigation was planned as a cross-sectional study that was carried out from March 2011 to March 2012 at the Department of Gynecology & Obstetrics, Rangpur Medical College & Hospital, Rangpur, Bangladesh. Six patients withdrew from the study group, which started at 56. A final sample size of 50 people was selected using a randomized purposive procedure. Patients were chosen for admission through the outpatient department based on their clinical presentation and the results of a general examination that included a physical, per speculum, and bimanual examination. After transvaginal ultrasound (TVU) or ultrasonography (USG) to confirm the diagnosis, patients were hospitalized for final care.

Every case of a fibroid uterus causes symptoms in women who are of reproductive age or perimenopausal were included in this study. The exclusion criteria for this study encompass specific conditions aimed at refining the participant pool and ensuring the focus on a particular subset of cases. Firstly, individuals with a fibroid uterus exhibiting any malignancy in female genital organs are excluded, as the presence of malignancy could confound the study outcomes. Additionally, patients with fibroid uteri concomitant with endometriosis are excluded, as this coexistence may introduce additional variables affecting the research objectives. Furthermore, those with fibroid uteri and systemic diseases such as liver disease are excluded from participation.

A questionnaire designed to record all relevant study parameters was used to gather information from 56 randomly selected patients with fibroid uterus symptoms who were admitted to the Gynae ward. The questionnaire was administered following appropriate counseling and the patient's or her legal guardian's written consent. Data were gathered through laboratory and interview techniques. All of the data was combined onto a master sheet, processed using the Microsoft Excel statistical application to provide frequency percentages in tables, and then examined using SPSS version 12. The ethical approval was taken from the hospital ethical committee with proper guidelines.

RESULTS

This descriptive type cross-sectional study included 56 consecutive cases of leiomyoma of uterus admitted out of them 6 patients were declined from the study & 50 patients were managed in the department of obstetrics and gynaecology, Rangpur Medical College Hospital, Rangpur during March 2011, March 2012.

Table I: Age distribution of the patient (n=50)

Age group (years)	Frequency	Percentage (%)
≤20	0	0
21-30	1	2
31-40	30	60
41-50	18	36
>50	1	2

Table I shows that among the 50 patient in this study, 36% were above 40 yrs of age. Majority of this patient (60%) were between 31 to 40 yrs of age.

Table II: Parity of the patients (n=50)

Para	Frequency	Percentage (%)
0	4	8
1-2	18	36
3-5	24	48
6-7	4	8

Table II shows that the, majority (48%) of the patients were in para 3-5 group. Only 8% of patients were in para 0 group. Among the patients higher parity was 7.

Table III: Age of last child (n=50)

Age group (years)	Frequency	Percentage (%)
1-5	4	8
6-10	12	24
11-15	12	24
16-20	20	40

Table III shows that in 40% patients, age of last child varied from 16-20 years.

Table IV: Associated pathology found during operation (n=50)

Associated condition	Frequency	Percentage (%)
Multiple ovarian cyst	13	26
Pelvic inflammatory disease	4	8
Endometriosis	2	4

Table IV shows that leiomyoma was found to be associated with cystic ovary in 26% cases, endometriosis in 4% cases and pelvic inflammatory disease in 8% cases

Table V: Histopathological findings (n=50)

Findings	Frequency	Percentage (%)
Simple leiomyoma	28	56
Leiomyoma with endometrial hyperplasia	6	12
Leiomyoma with degenerative changes (hyaline and	2	4

cystic)		
Leiomyoma with chronic cervicitis	8	16
Leiomyoma with adenomyosis	6	12

Table V shows the main histopathological findings. Among 50 cases simple leiomyoma were observed in 28 cases (56%), with endometrial hyperplasia in 12% cases, adenomyosis in 12% cases.

Table VI: Complication at postoperative follow up (n=50)

Complications	Frequency	Percentage (%)
Pyrexia	6	12
Urinary tract infection	6	12
Wound infection	2	4

Table VI shows that out of 50 patients, 14 had postoperative complications, 12% **had** UTI, and 4% had wound infection.

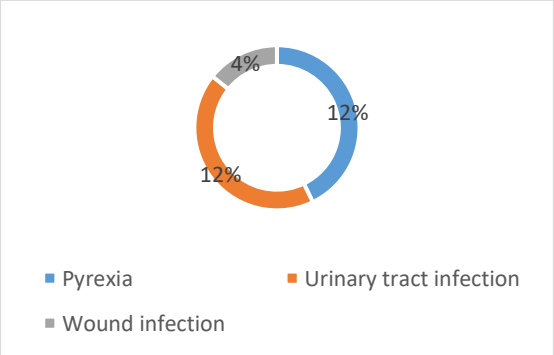

Figure I: Pie Chart of postoperative complication

Figure I shows that out of 50 patients, 14 had postoperative complications, 12% had UTI, and 4% had wound infection.

Table VII: Hospital stays (n=50)

Hospital stay (days)	Frequency	Percentage (%)
6-8	30	60
9-10	10	20
11-12	6	12
>12	4	8

Table VII shows that maximum no of patients (60%) stayed in hospital for 6-8 days.

DISCUSSION

This study aimed to investigate the pathological and histopathological findings, as well as complications associated with fibroid uterus. The age distribution revealed that a significant proportion of patients (60%) fell within the 31 to 40 age group, while 36% were above 40 years old. Parity analysis indicated that nearly half of the patients (48%) were in the para 3-5 group, with only 8% in para 0. A similar investigation showed in a series of 150 cases that a maximum of 85% of patients were nulliparous or primiparous, and only 36% of patients were multiparous [19]. The age of the last child varied notably, with 40% of patients having their last child between 16-20 years.

Operative findings unveiled associations between leiomyoma and other pathologies, such as multiple ovarian cysts (26%), pelvic inflammatory disease (8%), and endometriosis (4%). Histopathological analysis identified simple leiomyoma in the majority of cases (56%), followed by

leiomyoma with chronic cervicitis (16%) and leiomyoma with adenomyosis (12%). Postoperative complications were observed in 14 patients, with pyrexia (12%) and urinary tract infections (12%) being the most common, while wound infection occurred in 4% of cases **Figure 1**. A study showed 150 cases, where 26% of the cases had complaints of abdominal lumps. Histopathologically, chronic cervicitis was diagnosed in 50% of cases, and 22% is chronic pelvic inflammatory disease [19].

In this study, 56% of patients needed two units, and 20% required three units preoperatively to correct anemia. In a study, it was reported that 20%, 10%, and 7% blood transfusion needed up to 10% of patients undergoing open and laparoscopic myomectomy, respectively. A study of UAE has been referred 51% have access to UAE, and 40% [20].

Regarding hospital stays, most patients (60%) had a duration of 6-8 days, indicating a relatively common and uncomplicated recovery period. This study contributes valuable insights into the associated pathologies, histopathological variations, and postoperative outcomes of fibroid uterus cases, shedding light on the multifaceted aspects of this prevalent gynecological condition.

CONCLUSION

In conclusion, this study revealed higher cases on multiple ovarian cysts. Histopathological findings demonstrated simple leiomyoma in most of the patients. Postoperative complications were observed in mainly pyrexia, urinary tract infection, and wound infection among the patients. The majority of patients had a hospital stay of 6-8 days. These findings provide valuable insights into the associated pathologies, histopathological variations, and postoperative outcomes in cases of fibroid uterus, contributing to a better understanding of the clinical profile and management of this condition.

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CONFLICT OF INTEREST

None declared

ETHICAL APPROVAL

The study was approved by the Institutional Ethics Committee

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