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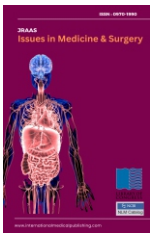

Research Article

Section: Obstetrics & Gynaecology

A Retrospective Study of Pregnancy Outcome with Uterine Fibroids - A Case Series

Kavya S B[1*], Narayani B H[1], Seema B N[1] & Rajesh B N[1]

[1]Department of Obstetrics & Gynaecology, Koppal Institute of Medical Sciences, Karnataka, India

HIGHLIGHTS

- Fibroids affect pregnancy
- Cesarean delivery common
- Hemorrhagic complications observed
- Neonatal morbidity reported
- Early surveillance beneficial

Key Wrds:
Uterine fibroids
Pregnancy outcome
Cesarean section
Postpartum hemorrhage
NICU admission

ABSTRACT

Introduction: Uterine fibroids are the commonest benign uterine tumors in women of reproductive age and are increasingly encountered during pregnancy. Their presence may alter placentation, fetal lie, labor progress, and postpartum uterine contractility, thereby contributing to adverse maternal and perinatal outcomes. However, the clinical course varies according to fibroid size, number, and location. **Aim & Objective:** To evaluate pregnancy outcomes in women with uterine fibroids and to assess associated maternal, fetal, intrapartum, postpartum, and perinatal complications in fibroid-complicated pregnancies. **Materials & Methods:** This retrospective case series was conducted at a tertiary care centre, KIMS, Koppal, and included 9 pregnant women with uterine fibroids managed between January 2025 and June 2025. Data were collected from hospital case records and labor ward registers. Variables studied included maternal age, gravidity, conception type, abortion history, timing of fibroid diagnosis, fibroid size, site and number, indication for cesarean section, maternal and postpartum complications, birth weight, and NICU admission. Descriptive analysis was performed. **Results:** Maternal age ranged from 24 to 34 years, with all women being multigravida. Conception was spontaneous in 7 cases and induced in 2. Fibroids were diagnosed antenatally in 6 cases, before conception in 2, and intraoperatively in 1. Sizes ranged from 3 to 12 cm, mostly single and subserosal. All patients underwent cesarean section. Complications included APH, hypertensive disorders, preterm labor, and malpresentation. Postpartum hemorrhage occurred in 4 cases, 7 required transfusion, and 3 neonates needed NICU admission. **Conclusion:** Pregnancy with uterine fibroids was associated with considerable fetomaternal morbidity, particularly operative delivery, hemorrhagic complications, and selective adverse neonatal outcomes. Early diagnosis, close antenatal surveillance, and careful delivery planning are essential to improve outcomes.

*** Corresponding Author:** Kavya S B, e-mail: kavya.bshanbogh21@gmail.com
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INTRODUCTION

Uterine fibroids, also known as leiomyomas or myomas, are the most common benign tumors of the female genital tract and arise from smooth muscle cells of the myometrium [1]. They are highly prevalent during the reproductive years, and population-based imaging studies have shown that their burden increases with age, with substantial variation across racial and ethnic groups [2]. In pregnancy, fibroids are not rare; first-trimester ultrasound studies have reported a prevalence around 10%, although the true frequency may be underestimated because small lesions can be missed and some fibroids become difficult to visualize as gestation advances. This makes fibroids an important clinical entity in obstetrics, especially in an era of delayed childbearing, where more women conceive at ages when leiomyomas are increasingly common [3].

Fibroids are heterogeneous in their number, size, and location, and this heterogeneity is central to their clinical relevance in pregnancy. They may be submucosal, intramural, subserosal, cervical, or located in the lower uterine segment, and each pattern can influence implantation, uterine distensibility, placentation, fetal lie, and labor progress differently [4]. Contemporary imaging literature emphasizes that ultrasound remains the first-line modality for identifying and characterizing fibroids, while MRI is reserved mainly for complex anatomy or preoperative planning outside routine pregnancy care. Accurate description of fibroid size, number, relation to the placenta, and distortion of the uterine cavity is clinically important because these factors appear to modify obstetric risk rather than fibroid presence alone [5].

The biological behavior of fibroids during pregnancy is also variable. Hormonal stimulation, altered vascularity, and mechanical changes of the gravid uterus can cause enlargement in some women, particularly in early gestation, whereas other fibroids remain stable or even shrink [6].

Degenerative changes, especially red degeneration, can produce significant abdominal pain and may mimic other acute obstetric or surgical conditions. At the same time, cavity distortion or lower-segment masses may interfere with fetal accommodation or descent. Because fibroids do not behave uniformly across pregnancy, the clinical course ranges from entirely incidental findings to lesions associated with repeated antenatal admissions, severe pain, malpresentation, or operative delivery [7].

Over the past decade, growing evidence has linked uterine fibroids with adverse pregnancy outcomes. A 2024 meta-analysis including 24 studies and 237,509 participants found that fibroids were associated with increased risks of preterm birth, cesarean delivery, placenta previa, miscarriage, placental abruption, postpartum hemorrhage, fetal distress, malposition, intrauterine fetal death, low birth weight, breech presentation, and preeclampsia. Separate meta-analytic work has also supported an association between fibroids and preterm birth. These data indicate that pregnancy complicated by fibroids cannot be viewed as uniformly benign, even though many women still achieve favorable maternal and neonatal outcomes [8]. The aggregate evidence instead suggests a risk gradient, with a subset of pregnancies requiring closer surveillance and more individualized intrapartum planning [9].

Importantly, adverse outcomes appear to be influenced by fibroid characteristics rather than by diagnosis alone. Evidence suggests that larger fibroids, multiple fibroids, submucosal lesions, and those in the lower uterine segment are more strongly associated with malpresentation, labor dystocia, hemorrhage, and cesarean birth [10]. Earlier cohort work has shown that multiplicity may increase preterm delivery risk, while more recent analyses indicate that size of 5 cm or greater and multiple lesions may further elevate obstetric risk [11]. This is clinically relevant because many retrospective hospital studies record these characteristics in antenatal imaging and operative notes, making

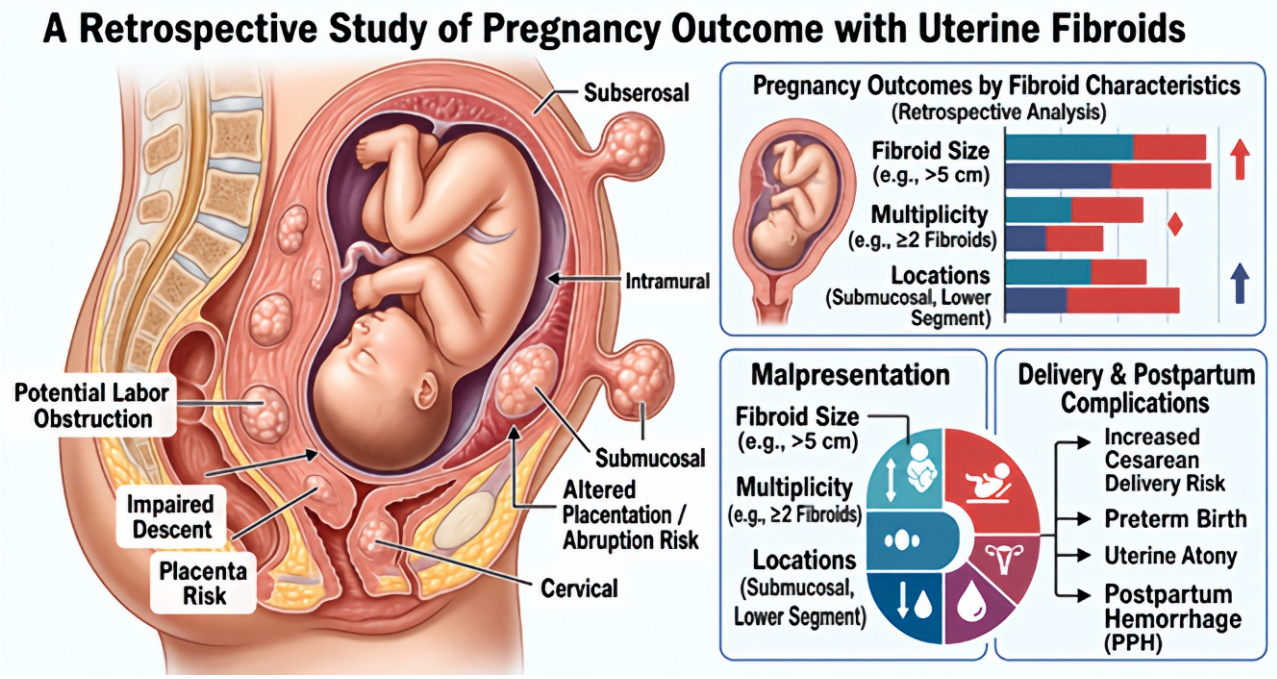

Figure 1. Mechanism, surgical fixation, and functional outcomes of suture anchor repair in coronoid process fractures.

them suitable variables for correlation with pregnancy outcome. Such data can help distinguish which fibroid-bearing pregnancies are likely to remain uncomplicated and which may progress to significant maternal or fetal morbidity [12].

From a practical obstetric perspective, fibroids may affect pregnancy at every stage. In early pregnancy they have been associated with pain, bleeding, and pregnancy loss; in later gestation they may contribute to placental abnormalities, fetal growth concerns, malpresentation, and preterm labor; during labor they may obstruct the birth canal or impair coordinated uterine contractility; and in the puerperium they may predispose to uterine atony and postpartum hemorrhage [4]. Yet not every pregnancy with fibroids develops complications, and the magnitude of risk reported across studies remains variable [13]. Differences in study design, population characteristics, ultrasound practices, fibroid classification, and outcome definitions likely explain part of this inconsistency [14].

This uncertainty is precisely why retrospective studies remain valuable. In many tertiary-care settings, hospital records preserve detailed antenatal scans, delivery summaries, operative findings, and neonatal outcomes, allowing investigators to examine real-world patterns in a large and diverse obstetric population [15]. A retrospective design is particularly useful for studying fibroid-associated pregnancy outcomes because it captures routine clinical practice rather than idealized trial conditions, includes emergency and elective deliveries, and permits assessment of relatively infrequent but important complications such as abruption, transfusion, hysterectomy, ICU admission, or adverse neonatal events [16]. It also enables evaluation of local disease burden, referral bias, and management trends in the context of available imaging and surgical resources [17].

Therefore, pregnancy with uterine fibroids represents a clinically significant intersection between common gynecologic pathology and obstetric risk [18]. Although many women with fibroids experience successful pregnancies, the current literature shows a measurable association with several maternal and fetal complications, particularly when lesions are large, multiple, strategically located, or symptomatic [4]. A well-designed retrospective study of pregnancy outcome in women with uterine fibroids can contribute meaningful evidence by quantifying these risks in a defined institutional population, clarifying the influence of fibroid characteristics, and supporting better antenatal counseling, risk stratification, delivery planning, and postpartum preparedness. In this way, such work has direct relevance to both maternal safety and neonatal outcome in contemporary obstetric practice [9]. Illustration depicting the impact of uterine fibroids on pregnancy outcomes, including altered placentation, malpresentation, impaired fetal descent, labor obstruction, increased cesarean delivery risk, postpartum hemorrhage, preterm birth, and adverse neonatal outcomes according to fibroid size, number, and location in fibroid-complicated pregnancies **(Figure 1).** The present study aimed to evaluate pregnancy outcomes in women with uterine fibroids. The objectives were to assess the maternal and fetal outcomes associated with fibroid complicated pregnancies, to describe the size, number, and location of fibroids, to examine associated antenatal, intrapartum and postpartum complications, and to analyze the perinatal outcomes and mode of delivery in these patients.

MATERIALS & METHODS

This retrospective case series was conducted at a tertiary care centre, KIMS, Koppal, and included 9 pregnant women diagnosed with uterine fibroids between January 2025 and June 2025. Relevant clinical data were obtained from hospital case records and labor ward registers. Information collected included maternal age, gravidity, mode of conception, abortion history, gestational age at diagnosis, fibroid size, site and number, indication for cesarean section, maternal and postpartum complications, and perinatal outcomes including birth weight and NICU admission. All cases were analyzed descriptively, and the findings were summarized in tabular form to assess fetomaternal outcomes associated with fibroid-complicated pregnancies.

RESULTS

A total of 9 pregnant women with uterine fibroids were included in this case series. Maternal age ranged from 24 to 34 years, and all patients were multigravida. Conception was spontaneous in 7 cases and induced in 2 cases, while 5 women had a history of previous abortions. Fibroids were diagnosed during pregnancy in 6 cases, before conception in 2 cases, and intraoperatively in 1 case. Fibroid size ranged from 3 to 12 cm, with most being single and predominantly subserosal in location. All patients underwent cesarean section, and none required cesarean myomectomy. Maternal complications included antepartum hemorrhage, hypertensive disorders, preterm labor, chorioamnionitis, labor abnormalities, malpresentation, and pain abdomen. Postpartum hemorrhage occurred in 4 cases, and 7 required blood transfusion. Birth weight ranged from 1.6 to 3.2 kg, and 3 neonates required NICU admission. This case series shows that pregnancies complicated by uterine fibroids were largely observed in women aged 24 to 34 years, with most patients being multigravida and the majority conceiving spontaneously, indicating that fibroids were common even in previously fertile women. A history of abortion was present in nearly half of the cases, suggesting an associated adverse obstetric background in a substantial proportion. Fibroids were most often diagnosed during pregnancy, usually in the second or early third trimester, although a few were known before conception and one was identified intraoperatively, reflecting variable timing of detection. Overall, the table suggests that uterine fibroids in pregnancy are encountered across diverse obstetric profiles and may coexist with multiple high risk pregnancy conditions, warranting close antenatal surveillance **(Table 1)**. The fibroid profile in this case series showed marked heterogeneity in size and location, with lesions ranging from 3-

12 cm, indicating that pregnancy outcomes were influenced by both small and large fibroids. Subserosal fibroids were the predominant type, particularly at anterior, fundal, and posterior sites, suggesting that peripheral uterine wall involvement was the commonest morphological pattern. Most women had a single fibroid, while only two cases had multiple fibroids, indicating that solitary lesions were more frequent in this cohort. Overall, the table suggests that although subserosal and solitary fibroids predominated, larger lesions and fibroids at critical sites, such as cervical and intramural locations, may carry greater obstetric significance due to their potential mechanical and pregnancy-related complications **(Table 2)**. **Table 3** shows that all women in the case series underwent cesarean section, indicating a uniformly operative mode of delivery in pregnancies complicated by uterine fibroids. The indications were diverse, including previous LSCS, prolonged PPROM, breech presentation, non-progression of labor, non-reassuring fetal heart rate, and placenta previa, suggesting that both obstetric factors and fibroid-related mechanical issues may have contributed to surgical delivery. Cesarean delivery on maternal request was also seen in two cases, reflecting individualized decision-making in high-risk pregnancies. Notably, no patient underwent cesarean myomectomy, which suggests a cautious operative approach to avoid excessive intraoperative hemorrhage and other surgical complications in the presence of fibroids. The maternal complication profile demonstrates that pregnancies with uterine fibroids were associated with a wide spectrum of antenatal and intrapartum morbidities, indicating substantial obstetric vulnerability in this cohort. Hemorrhagic complications such as antepartum hemorrhage, hypertensive disorders including severe preeclampsia and imminent eclampsia, infection in the form of chorioamnionitis, and fetal growth restriction were all observed, reflecting multisystem pregnancy risk.

Mechanical and labor related problems such as malpresentation, labor dystocia, prolonged labor, and abdominal pain further suggest that fibroids may interfere with normal uterine dynamics and fetal positioning. Overall, the table indicates that uterine fibroids can contribute to diverse and clinically significant maternal complications, necessitating close monitoring and timely obstetric intervention **(Table 4)**. The postpartum outcome pattern in this case series indicates a high burden of maternal morbidity, with postpartum hemorrhage emerging as the most frequent complication and often occurring with the need for blood transfusion. Blood transfusion requirements were seen in most cases, suggesting significant peripartum blood loss and highlighting the hemorrhagic risk associated with fibroid-complicated pregnancies. Additional complications such as puerperal sepsis, subinvolution of the uterus, and surgical site infection further show that these patients remained vulnerable even in the postnatal period. Overall, the table suggests that pregnancies with uterine fibroids are associated with considerable postpartum complications, particularly hemorrhagic morbidity, and therefore require vigilant postdelivery monitoring and supportive care **(Table 5)**. The perinatal outcome profile suggests variable neonatal impact in pregnancies complicated by uterine fibroids, with birth weight ranging from 1.6 to 3.2 kg, indicating outcomes from low birth weight to near normal neonatal growth. NICU admission was required in 3 of 9 cases, showing that a substantial proportion of neonates needed specialized postnatal support. The lowest birth weights were seen in cases that also required NICU admission, suggesting an association of fibroid-complicated pregnancy with prematurity and fetal growth compromise in selected patients. Overall, although most neonates had acceptable birth weights and did not require NICU care, adverse perinatal outcomes were still notable in a considerable subset of cases **(Table 6)**. Intraoperative uterine fibroids in Cases 1-4 **(Figure 2)**. Intraoperative uterine fibroids in Cases 5-9 **(Figure 3)**.

Table 1: Case-wise demographic and obstetric profile

Case	Age (years)	Diagnosis	Type of conception	H/O abortions	Time of diagnosis of fibroid
Case 1	25	G3P2L2 with 38 weeks + 4 days POG with previous 2 LSCS with abruption	Spontaneous	No	26 weeks
Case 2	24	G4P1L1A2 with 36 weeks + 2 days POG with PROM	Spontaneous	Yes	30 weeks
Case 3	32	G3A2 with 36 weeks POG with SPE	Induced	Yes	Before conception
Case 4	34	G4A3 with 35 weeks + 3 days POG with imminent eclampsia	Induced	Yes	Before conception
Case 5	27	G2P1D1 with 40 weeks + 4 days POG with breech presentation	Spontaneous	No	18 weeks
Case 6	28	G2P1L1 with 39 weeks + 3 days POG	Spontaneous	No	20 weeks
Case 7	27	G2P1L1 with 38 weeks + 4 days POG, previous LSCS	Spontaneous	No	24 weeks
Case 8	30	G3P1L1A1 with 37 weeks + 3 days POG	Spontaneous	Yes	28 weeks
Case 9	28	G3A2 with 39 weeks POG	Spontaneous	Yes	On table

Table 2: Case-wise fibroid characteristics

Case	Fibroid size	Fibroid location	Number of fibroids
Case 1	6 to 8 cm	Anterior subserosal	1
Case 2	5 to 5 cm	Fundal subserosal	1
Case 3	3 to 4 cm	Anterior subserosal	2
Case 4	8 to 9 cm	Intramural	1
Case 5	10 to 12 cm	Cervical	1
Case 6	5 to 6 cm	Posterior subserosal	1
Case 7	4 to 5 cm	Cervical	1
Case 8	4 to 5 cm	Subserosal	1
Case 9	6 to 7 cm	Posterior subserosal	2

Table 3: Case-wise delivery and operative details

Case	Indication for cesarean section	Mode of delivery	Cesarean myomectomy
Case 1	Previous 2 LSCS	Cesarean section	No
Case 2	Prolonged PPROM	Cesarean section	No
Case 3	CDMR	Cesarean section	No
Case 4	CDMR	Cesarean section	No
Case 5	Breech presentation	Cesarean section	No
Case 6	Non progression of labor	Cesarean section	No
Case 7	Previous LSCS in labor	Cesarean section	No
Case 8	Non reassuring FHR	Cesarean section	No
Case 9	Placenta previa	Cesarean section	No

Table 4: Case-wise maternal complications

Case	Maternal complications
Case 1	APH
Case 2	Chorioamnionitis
Case 3	Preterm labor, SPE
Case 4	Imminent eclampsia, IUGR
Case 5	Malpresentation
Case 6	Labor dystocia
Case 7	Pain abdomen
Case 8	Prolonged labor
Case 9	APH

Table 5: Case-wise postpartum complications

Case	Postpartum complications
Case 1	PPH, need for blood transfusion
Case 2	Puerperal sepsis
Case 3	Need for blood transfusion
Case 4	Need for blood transfusion, subinvolution of uterus
Case 5	Need for blood transfusion, surgical site infection
Case 6	PPH, need for blood transfusion
Case 7	PPH, need for blood transfusion
Case 8	Nil
Case 9	PPH, need for blood transfusion

Table 6: Case-wise perinatal outcome

Case	Birth weight	NICU admission
Case 1	2.75 kg	No
Case 2	2.3 kg	Yes
Case 3	2.2 kg	Yes
Case 4	1.6 kg	Yes
Case 5	3.2 kg	No
Case 6	2.7 kg	No
Case 7	2.4 kg	No
Case 8	2.9 kg	No
Case 9	2.5 kg	No

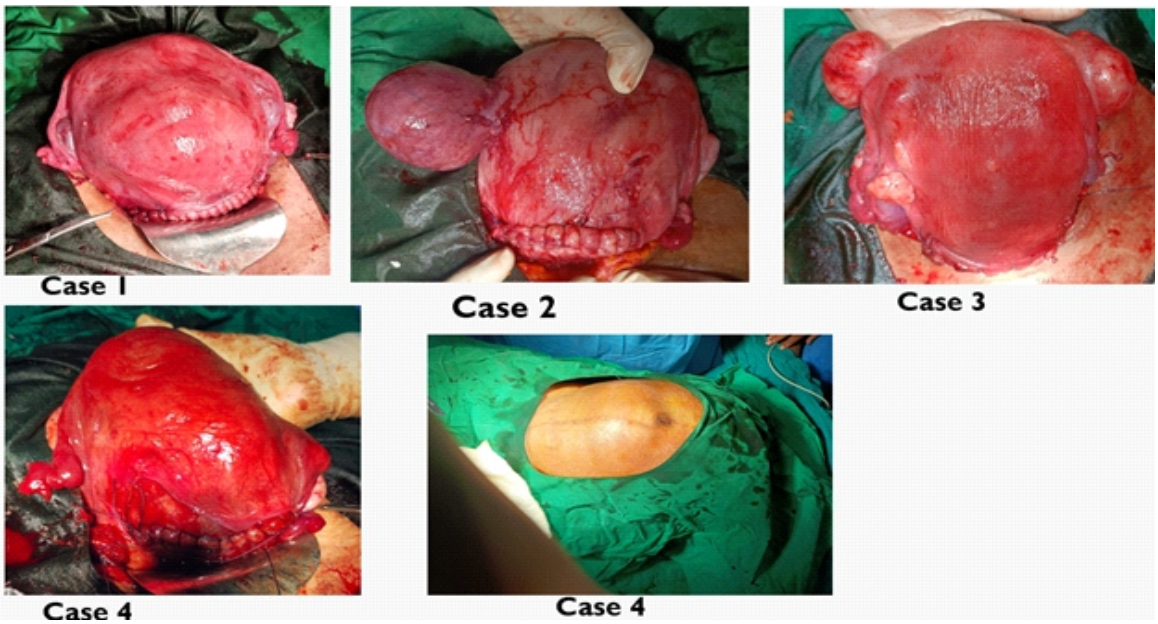

Figure 2: Intraoperative photographs showing uterine fibroids in Cases 1 to 4

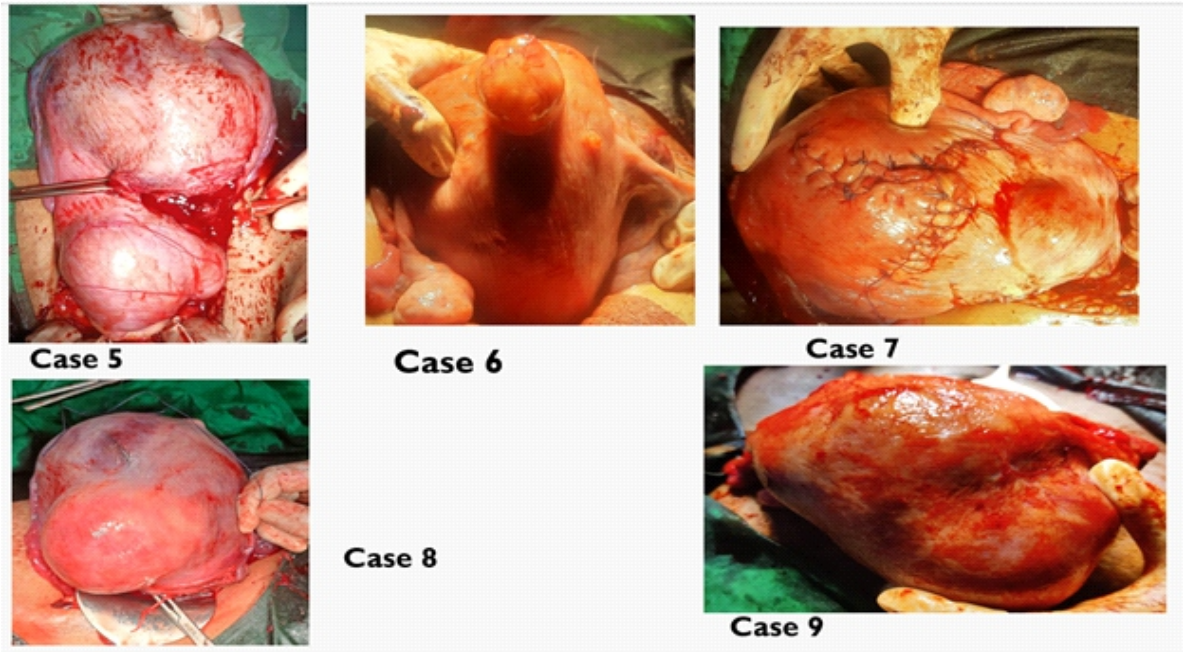

Figure 3: Intraoperative photographs showing uterine fibroids in Cases 5 to 9.

DISCUSSION

Our case series is consistent with recent evidence showing that uterine fibroids are more clinically relevant in women of advanced reproductive age and are associated with an adverse obstetric profile. In the 2026 cohort by Wu and Zhang, women with fibroids were significantly older (34.4 ± 3.7 vs 32.1 ± 4.0 years) and had higher gravidity (2.6 ± 1.6 vs 2.2 ± 1.5), which supports our observation that fibroids were concentrated in multigravida women aged 24 to 34 years. Li et al. (2024), in a meta-analysis of 24 studies with 237,509 pregnancies, reported increased risks of miscarriage, PPROM, breech presentation, and preeclampsia in women with fibroids, which correlates with our history of abortions, PROM, breech, and hypertensive complications. Variable timing of diagnosis and spontaneous conception can be retained as descriptive findings of our series, while the cited studies chiefly strengthen the complication-risk association [9,19].

Our fibroid profile of predominantly single, subserosal lesions measuring 3 to 8 cm remains clinically important, because recent evidence shows that obstetric risk rises once fibroid diameter exceeds 5 cm. In Dayanan et al. (2025), adverse outcomes increased stepwise with size: preterm birth rose from 12.3% in fibroids under 5 cm to 24.1% in 5 to 10 cm and 36.1% in over 10 cm; PPROM increased from 2.5% to 10.6% and 13.9%; malpresentation from 13.3% to 47.2%; and postpartum hemorrhage from 1.3% to 30.6%. Fibroids over 5 cm independently predicted composite adverse perinatal outcome. Similarly, Wu and Zhang (2026) found higher cesarean and hemorrhage rates with fibroids 5 cm or larger, multiple fibroids, and lower uterine segment location, while subserosal fibroids had lower adverse rates than submucosal lesions, indicating that even our mainly subserosal, moderate-sized fibroids can influence pregnancy, though risk is greatest with larger, multiple, or less favorably located tumors [19,20].

Our operative profile is consistent with recent evidence showing that uterine fibroids substantially increase operative delivery and complicate intrapartum management. In the 2026 retrospective cohort by Wu and Zhang, women with fibroids had a significantly higher cesarean section rate than controls, 54.9% versus 42.0%, and fibroids remained an independent predictor of cesarean delivery (aOR 1.52); they also had higher rates of postpartum hemorrhage 28.1% versus 7.3% and fetal malpresentation 5.0% versus 2.6%, which supports our indications of breech presentation, prior LSCS, hemorrhage risk, and labor-related complications driving cesarean delivery. Similarly, Li et al. (2024), in a meta-analysis of 24 studies including 237,509 pregnancies, found that fibroids increased the risks of cesarean delivery, placenta previa, postpartum hemorrhage, fetal distress, breech presentation, & preeclampsia, closely paralleling our operative indications. The absence of cesarean myomectomy in our series can therefore be interpreted as a cautious approach in view of recognized hemorrhagic risk [9,19]. Our maternal complication profile is consistent with recent evidence showing that uterine fibroids substantially increase antenatal and intrapartum morbidity. Li et al. (2024), in a meta-analysis of 24 studies involving 237,509 pregnancies, reported that fibroids increased the risks of preterm birth, PPROM, placental abruption, postpartum hemorrhage, fetal distress, malposition, breech presentation, low birth weight, and preeclampsia; after adjustment, excess risk persisted for preterm birth, placenta previa, placental abruption, postpartum hemorrhage, breech presentation, and preeclampsia. Similarly, Wu and Zhang (2026) found that women with fibroids had higher rates of hypertensive disorders, severe preeclampsia, placenta previa, cesarean section, postpartum hemorrhage, and fetal malpresentation, with fibroids remaining independent predictors of cesarean delivery, postpartum hemorrhage, and malpresentation. These data support our observations of APH related placental complications, hypertensive morbidity, preterm labor, IUGR-related fetal compromise, malpresentation, and labor dystocia, while chorioamnionitis in our series is best interpreted as an associated descriptive finding rather than a consistently established fibroid-specific outcome [9,19].

Our combined postpartum and perinatal outcome profile is supported by recent evidence showing that fibroid pregnancies carry substantial hemorrhagic maternal risk, while neonatal compromise is more selective than universal. In the 2026 cohort by Wu and Zhang, postpartum hemorrhage occurred in 28.1% of women with fibroids versus 7.3% of controls, and fibroids remained an independent predictor of postpartum hemorrhage (aOR 4.98, 95% CI 3.69 to 6.72), which strongly supports our high frequency of PPH and transfusion requirement. Dayanan et al. (2025) further showed a size-related rise in adverse neonatal and maternal outcomes, with postpartum hemorrhage increasing from 1.3% in fibroids <5 cm to 11.6% in 5 to 10 cm and 30.6% in >10 cm, while NICU admission increased from 12.8% to 28.8% and 44.4% across the same groups. These data parallel our observation that although a few low-birth-weight neonates required NICU care, most neonates still had acceptable outcomes with appropriate obstetric management [19,20].

LIMITATIONS & FUTURE PERSPECTIVES

The study's limitations include a single-centre setting, a relatively small sample size, and a short study duration, which may limit the broader applicability of the results. Future studies should incorporate multicentre designs with larger populations to enhance validity, assess long-term outcomes, and investigate advanced diagnostic & management approaches. Such efforts will improve overall patient care and help minimize complications.

CLINICAL SIGNIFICANCE

The clinical significance of this study lies in its potential to bridge the gap between research findings and practical healthcare applications. It emphasizes the importance of translating scientific observations into meaningful improvements in patient care, diagnosis, and treatment outcomes. By highlighting real-world relevance, the study contributes to evidence based medical practice and supports informed clinical decision making. Ultima-

tely, the findings aim to enhance patient quality of life, optimize therapeutic strategies, and promote better disease management in clinical settings.

ABBREVIATIONS

PPROM: Preterm premature rupture of membranes
PROM: Premature rupture of membranes
PPH: Postpartum hemorrhage
IUGR: Intrauterine growth restriction
LSCS: Lower segment cesarean section

AUTHOR INFORMATION

Dr. Kavya S B:
Dr. Narayani B H:
Dr. Seema B N:
Dr. Rajesh B N:

AUTHOR CONTRIBUTIONS

All authors significantly contributed to the study conception and design, data acquisition, or data analysis and interpretation. They participated in drafting the manuscript or critically revising it for important intellectual content, consented to its submission to the current journal, provided final approval for the version to be published, and accepted responsibility for all aspects of the work. Additionally, all authors meet the authorship criteria outlined by the International Committee of Medical Journal Editors (ICMJE) guidelines.

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CONFLICT OF INTEREST

Authors declared that there is no conflict of interest.

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All necessary consent & approval was obtained by authors.

CONSENT FOR PUBLICATION

All necessary consent for publication was obtained by authors.

DATA AVAILABILITY

All data generated and analyzed are included within this research article. The datasets utilized and/or analyzed in this study can be obtained from the corresponding author upon a re-asonable request.

USE OF ARTIFICIAL INTELLIGENCE (AI) & LARGE LANGUAGE MODEL (LLM)

The authors confirm that no AI & LLM tools were used in the writing or editing of the manuscript, and no images were altered or manipulated using AI & LLM.

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This article serves as an important educational tool for the scientific community, offering insights that may inspire future research diretions. However, they should not be relied upon independently when making treatment decisions or developing public health policies.

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[1]CSIR-Central Institute of Medicinal & Aromatic Plants, Lucknow, India
[2]CSIR-National Botanical Research Institute, Lucknow, India

HANDLING EDITOR

Dr. Dinesh Kumar Verma
Research Assistant Professor, School of Allied Health Sciences, Boise State University, Boise, Indiana, USA
e-mail: dineshkumarverma@boisestate.edu

REFERENCE

1. Bulun SE, Yin P, Wei J, Zuberi A, Iizuka T, Suzuki T, et al. Uterine fibroids. Physiol Rev. 2025;105(4):1-69.
2. Alkutbi SH, Nassir ES, Ibrahim AI. Uterine leiomyomas (uterine fibroids). Ann Rom Soc Cell Biol. 2021;25(4):6662-6686.
3. Laughlin SK, Baird DD, Savitz DA, Herring AH, Hartmann KE. Prevalence of uterine leiomyomas in the first trimester of pregnancy: an ultrasound-screening study. Obstet Gynecol. 2009;113(3):630-635. doi:10.1097/AOG.0b013e318197bbaf
4. Coutinho LM, Assis WA, Spagnuolo-Souza A, Reis FM. Uterine fibroids and pregnancy: how do they affect each other? Reprod Sci. 2022;29(8):2145-2151. doi:10.1007/s43032-021-00656-6

5. Palheta MS, Medeiros FC, Severiano ARG. Reporting of uterine fibroids on ultrasound examinations: an illustrated report template focused on surgical planning. Radiol Bras. 2023;56(2):86-94. doi:10.1590/0100-3984.2022.0048
6. Kirschen GW, AlAshqar A, Miyashita-Ishiwata M, Reschke L, El Sabeh M, Borahay MA. Vascular biology of uterine fibroids: connecting fibroids and vascular disorders. Reproduction. 2021;162(2):1-18.
7. Navarro A, Bariani MV, Yang Q, Al-Hendy A. Understanding the impact of uterine fibroids on human endometrium function. Front Cell Dev Biol. 2021;9:1-16. doi: 10.3389/fcell.2021.633180
8. Nazir A, Mukhtar M, Masih S, editors. Impact of teaching interventions on awareness and complications during pregnancy in uterine leiomyoma patients. Med Forum Mon. 2025;36(9):85-89. doi:10.60110/medforum.360916.
9. Li H, Hu Z, Fan Y, Hao Y. The influence of uterine fibroids on adverse outcomes in pregnant women: a meta-analysis. BMC Pregnancy Childbirth. 2024;24(1):1-10. doi:10.1186/s12884-024-06545-5
10. Gupta S, Jose J, Manyonda I. Clinical presentation of fibroids. Best Pract Res Clin Obstet Gynaecol. 2008;22(4):615-626. doi:10.1016/j.bpobgyn.2008.01.008
11. Ciavattini A, Clemente N, Delli Carpini G, Di Giuseppe J, Giannubilo SR, Tranquilli AL. Number and size of uterine fibroids and obstetric outcomes. J Matern Fetal Neonatal Med. 2015;28(4):484-488.
12. Lam SJ, Best S, Kumar S. The impact of fibroid characteristics on pregnancy outcome. Am J Obstet Gynecol. 2014;211(4):1-19. doi:10.1016/j.ajog.2014.03.066
13. Selter JH, Price TM, Harris BS. Fibroids in pregnancy: a growing or shrinking issue? Fertil Steril. 2022;118(4):666-667.
14. Kase BA, Blackwell SC. Fibroids in pregnancy: meaning and management. Contemp OB/GYN. 2014;59(12):34-36.
15. Yerraguntla N. Prospective observational study on neonatal surgical emergency admissions and perinatal risk factors identified during antenatal care. 2021;10(1):1-6.
16. Vilos GA, Allaire C, Laberge PY, Leyland N, Vilos AG, Murji A, et al. The management of uterine leiomyomas. J Obstet Gynaecol Can. 2015;37(2):1-22.
17. Laberge PY, Murji A, Vilos GA, Allaire C, Leyland N. Guideline No. 389-medical management of symptomatic uterine leiomyomas: an addendum. J Obstet Gynaecol Can. 2019;41(10):1-4. doi:10.1016/j.jogc.2019.01.010
18. Munro MG, Tchaikovski SN, Murji A. The epidemiology and pathogenesis of uterine fibroids. Int J Gynaecol Obstet. 2025;171(3):1-17. doi:10.1002/ijgo.70527
19. Wu J, Zhang X. Association of uterine fibroids with adverse pregnancy outcomes: a retrospective cohort study. BMC Pregnancy Childbirth. 2026:1-30. doi:10.1186/s12884-026-08654-9
20. Dayanan R, Duygulu Bulan D, Ayas Ozkan M, Karabay G, Seyhanli Z, Beydilli Sural E, et al. Influence of uterine fibroid size on perinatal and neonatal outcomes: a single-centre cohort of 651 pregnancies. BMC Pediatr. 2025;25(1):1-9. doi:10.1186/s12887-025-06133-2