

# Obstetric Outcome of Pregnancy with Fibroids: An Observational Study

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## Abstract

**Background:** Fibroids in the uterus of pregnant females have a major impact on the outcomes of pregnancy. Reports suggest various complications may occur in females with uterine fibroids. **Material and Methods:** An observational investigation was conducted on pregnant women with uterine fibroids to assess the obstetrics outcomes of pregnancies. The clinical profile, demographs, and details of delivery were collected and documented. **Results:** The investigation was performed on 247 pregnant females and observations were made based on the clinical history, parity, size and number of uterine fibroids, ultrasound findings and outcome. Overall, a higher number of caesarean sections in pregnant females with fibroids in the uterus along with other complications was observed. 16.4% of pregnancies were preterm in females with fibroids in the uterus. **Conclusion:** The observations in the present study highlight complications in pregnant females with uterine fibroids that require regular follow-ups and monitoring for the care and benefit of the mother and foetus.

## Keywords

Uterine Fibroids, Obstetric outcomes, Pregnancy, Myoma

## Introduction

The most prevalent benign tumour of the female reproductive system is uterine leiomyoma or myoma. It grows out of the uterus's smooth muscle. Though the projected incidence during pregnancy is 0.1-3.9%<sup>[1,2]</sup>, it impacts nearly 50% of women<sup>[3,4]</sup>. Among women over 30 years old, uterine myomas are the most frequent pelvic tumours. Fibroids reach their largest size in the reproductive phase because their growth is correlated with their level of exposure to circulating estrogens. They typically afflict women who are of reproductive age, while the precise incidence is unclear. Pregnancy-related myomas are known to occur in between 0.3% and 5% of cases, with the majority of these cases not necessitating surgical intervention while pregnant or after delivery<sup>[5-8]</sup>. Only 42% of big fibroids (>5 cm) and 12.5% of small fibroids (3-5 cm) can be accurately diagnosed through a physical examination<sup>[9,10]</sup>. Due to the complexity of differentiating fibroids from typical myometrial thickness,

ultrasound's potential to identify fibroids in pregnancy is substantially lower (1.4–2.7%)<sup>[11]</sup>. Intrauterine growth restriction (IUGR), acute abdomen, red fibroid degeneration, laparotomy, malpresentation, preterm labour, foetus malposition, postpartum haemorrhage (PPH), placenta retention, dysfunctional labour, and antepartum haemorrhage (APH) are complications that occur during pregnancy with the fibroid<sup>[11-13]</sup>. Pregnant women with coexisting fibroids are more likely to experience loss in the first trimester of pregnancy, pressure signs and symptoms, pain from necrobiosis, preterm membrane rupture and labour, torsion of a pedunculated variant, malpresentation, obstructed labour from the cervical or lower-section mass intrapartum and retained placenta, uterus subinvolution, postpartum endomyometritis, and the instantaneous postpartum period<sup>[14,15]</sup>. While the vast majority of uterine fibroid pregnancy cases require conservative therapy, certain

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**Manuscript Received:** 08.10.2023; **Revision Accepted:** 09.12.2023;

**Published Online First:** 10 July, 2024.

**Open Access at:** <https://journal.jkscience.org>

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**Cite this article as:** Digra M. Obstetric outcome of pregnancy with fibroids: an observational study. JK Science 2024; 26(3):145-48.

cases, such as pedunculated fibroid with torsion, necessitate immediate surgical intervention<sup>[11-13]</sup>. Due to the possibility of uncontrollable bleeding and increased postoperative morbidity, myomectomy during caesarean birth is debatable. We performed an observational investigation to assess the obstetrics outcomes of pregnancies with uterine fibroids in our region.

**Material and Methods**

The present investigation is an observational study that was conducted at the Department of Obstetrics and Gynecology in Government Medical College, Kathua. The study protocols were reviewed and approved by the Institutional Ethics Committee, Government Medical College, Kathua (IEC/GMCK/113). The investigation was performed over 18 months duration from October 2021 to April 2023.

The participants included in the study were pregnant women with uterine fibroids diagnosed through ultrasonography either antenatally or prenatally. The data regarding the clinical profile, demographs, and details of delivery were collected and documented retrospectively from the patient records while maintaining confidentiality. The inclusion of the participants from the present investigation was based on the presence of other complications like diabetes or hypertension, previous surgery or cesarean section and any kind of uterine deformity.

The recorded information included the age of the female at the time of pregnancy, clinical history, parity, size and number of uterine fibroids, ultrasound findings and outcome. Microsoft Excel was used for maintaining the records and the data was presented in the form of numbers and percentages. Statistical analysis at the threshold value of 0.05 was performed.

**Results**

A total of 247 pregnant females were enrolled in the study based on the ultrasound findings. The median age of the females enrolled in the study cohort was between 25 to 30 years. This age group comprised 44.4% of the total study population. Following this, females between 31 to 35 years of age contributed 32.4% to the total study population (Table 1). There were very few participants who were below 25 years or above 40 years of age in our study cohort.

Among our study participants, 49.2% of the females were pregnant for the first time in their life, 35.6% were second or third gravida and 14% of the females were pregnant for 4<sup>th</sup> time in their life.

We observed that nearly 60% of females had subserous

fibroids and 24.8% of the females exhibited submucous fibroids. The presence of fibroid was most commonly observed in the fundus region (69.9%) followed by pedunculated fibroid. It was interesting to note that nearly 45% of the females were observed to have 2-3 fibroids (Table 1).

While analysing the obstetric outcomes, we observed that nearly 65% of the pregnancies were terminated at their term. The deliveries at 32-37 weeks of gestation accounted for 16.4% of the females in our study population. The caesarean section was the common mode of delivery accounting for 51.2% of the total deliveries, followed by normal vaginal delivery which accounted for 36.4% (Table 2). The complications observed during pregnancy

**Table 1. Clinical Characteristics of Study Participants Pregnancy with Uterine Fibroids**

Pregnancy with Uterine Fibroids		
	Number	Percentage
<b>Age (years)</b>		
20-25	23	9.2%
>25-30	111	44.4%
>30-35	81	32.4%
>35-40	27	10.8%
>40	5	2%
<b>Gravida status</b>		
Primigravida	123	49.2%
Gravida 2-3	89	35.6%
Gravida >3	35	14%
<b>Type of Fibroid</b>		
Intramural	34	13.6%
Submucous	62	24.8%
Subserous	151	60.4%
<b>Location of Fibroid</b>		
Cervix	15	6%
Fundus	174	69.6%
Tubes	16	6.4%
Pedunculated	42	16.8%
<b>Number of fibroids</b>		
1	88	35.2%
2-3	113	45.2%
>3	46	18.4%

included transfusion of blood, threatened abortion and preterm labour. While assessing the outcomes of pregnancy, low birth weight was observed in many cases. However, only 2 cases had neonatal mortality.

**Table 2. Obstetric Outcome of Pregnancy**

	Number	Percentage
<b>Gestational age at termination of pregnancy</b>		
<20 weeks	11	4.4%
20-32 weeks	21	8.4%
>32-37 weeks	41	16.4%
>37-40 weeks	160	64%
>40 weeks	14	5.6%
<b>Delivery mode</b>		
Cesarean section	128	51.2%
Vaginal normal delivery	91	36.4%
Instrumental delivery	7	2.8%
Assisted Breech delivery	4	1.6%
Hysterotomy	5	2%
Suction and evacuation	12	4.8%

### Discussion

The rising maternal age and conception delays have led to an increase in the global prevalence of fibroid uterus in pregnancy. The location and size of fibroids are vital indicators that can forecast morbidity in pregnancy. Complications such as antepartum haemorrhage, postpartum haemorrhage, intrauterine growth restriction, and abortion arise if the implantation of the placenta is either adjacent to the fibroid or on the fibroid<sup>[16,17]</sup>. The labour may on the other hand be hindered if there is a tumour in the lower uterine segment or cervix. In certain cases, the location and size of the fibroid may predict the risk and lead to certain malpresentation<sup>[18]</sup>.

The increased occurrences of uterine rupture were linked to the unselective application of electrosurgical energy and the omission of multilayer closure in the myoma bed<sup>[19,20]</sup>.

In previous analyses, the obstetric outcomes of pregnancy with bigger and multiple fibroids identified via ultrasonography were evaluated<sup>[11]</sup>. During the investigation, it was observed that over 200 women were having fibroids in the uterus. The rate of breech presentation, caesarean section and preterm delivery was higher in women with multiple fibroids in comparison to women who did not have fibroids. The association of

multiple fibroids is often reported to caesarean delivery or preterm birth whereas preterm premature rupture of membranes is associated with large fibroids based on these investigations. In the majority of fibroid cases, the pregnancy is conservatively treated. In the present investigation, 51.2% of the females underwent caesarean section. However, there was no association observed between the number and location of fibroids with the delivery mode.

Another investigation conducted on 50 participants highlighted that the pregnant females that have fibroids were falling in the high-risk group for complications intranatally, antenatally and in the postpartum period<sup>[21]</sup>. The outcomes of pregnancy were observed to be normal in a few cases and the majority of the cases underwent caesarean section. Further miscarriage was observed in 30% of the females along with postpartum haemorrhage and required transfusion of blood. In the current evaluation, nearly 50% of the females had to undergo caesarean section.

The pregnancy-related complications were studied in another investigation with a key emphasis on the large uterine fibroid<sup>[22]</sup>. The blood transfusion was required by 87% of females and 60% of the patients had malpresentation. There was a need for bilateral prophylactic internal iliac artery ligation in 13.33% of the patients. During the delivery, these patients also underwent myomectomy. We also observed a few cases of malpresentation in our study.

One of the multicentric investigations conducted on 112,403 females highlighted that at least 2.68% of females have fibroids<sup>[23]</sup>. The location of the fibroid such as subserosal, submucosal or intramural further had a significant effect on the probability of postpartum haemorrhage. In our analysis, postpartum haemorrhage was observed in very few cases, and it was not possible to analyse it in the context of the location of fibroids.

An investigation was conducted on singleton pregnancy females (n=4622) and it was observed that 10% of the females had at least one fibroid, and 7% of cases resulted in preterm birth<sup>[24]</sup>. The comparative analysis of the two groups highlighted that in both groups fibroid prevalence was nearly similar. However, after adjusting the confounders, the preterm birth was observed to be not related to fibroids in the uterine of the pregnant females. In the current investigation, we observed preterm delivery in 14.6% of females. The advanced gestational age at the time of termination of pregnancy i.e., more than 37 weeks was observed in 64% of the females. However, it

did not correlate with the rate of caesarean section. Overall, in our observational investigation, we observed a higher number of caesarean sections in pregnant females with fibroids in the uterus along with other complications. The site of the study was a single location which may be considered as one of the limitations of the present study and the data collected was retrospective from hospital records. Further studies on uterine fibroid may include analysis of other clinical parameters such as BMI, blood pressure, smoking etc. that can be confounders for the outcome of pregnancy.

### Conclusion

The present medicine era has provided access to ultrasonography and many individuals utilise this facility for various ailments. This has helped in an elevated number of diagnoses in multiple facets including uterine fibroid. There are many cases of pregnancy with uterine fibroid that are asymptomatic and are observed as incidental findings. Abortions in the early stages of pregnancy may be associated with fibroids. Fibroids are further associated with malpresentation risks. In females with uterine fibroids, there is a higher rate of caesarean sections. Overall, it is valid to state that the presence of uterine fibroids turns a normal pregnancy into high-risk complications. In the current analysis, we highlight the various complications that arise during pregnancy with uterine fibroids. Hence, it is vital to seriously evaluate pregnancy with uterine fibroids with regular follow-ups to provide special care in the form of monitoring the mother and foetus.

### Financial Support and Sponsorship

Nil.

### Conflicts of Interest

There are no conflicts of interest.

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