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# Assess the outcome of pregnancies with fibroids and associated complications: a hospital-based observations study

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**Abstract**
**Aim:** To assess the outcome of pregnancies with fibroids and associated complications.
**Materials and Methods:** The present prospective observational clinical study was conducted in the Department of Obstetrics and Gynecology, Patna Medical College and Hospital, Bihar. 112 cases of were found to be eligible for inclusion in the study.
**Results:** Mean age of the study subjects was 28.14 years. 33.9% patients were primigravida and 66.1% were multigravida. 69.6% patients reported single fibroid and 30.1% reported multiple fibroids. 27 (24.1%) had spontaneous abortion
**Conclusion:** Fibroids were found to be responsible for high incidence of complications throughout antepartum, intrapartum, and postpartum period.

**Keywords:** maternal outcome, fibroid, spontaneous abortion

## Introduction
Myomas are the most frequently recorded benign smooth muscle tumor of the uterus, affecting 20%–60% of women of reproductive age [1]. At present, although there are a lot of research about the prevention and treatment of uterine fibroids the etiopatogenesis of uterine fibroids is still unclear. The incidence of fibroids in pregnancy reported ranges from 0.1 to 10.7% of all pregnancies and increases as the female chooses to postpone pregnancy later on [2]. It was found that 10%–40% of prepartum complications which happened in pregnancy with fibroid have been associated with the presence of it [3]. Also, they are related to a lot of ante-, intra-, and postpartum complications [4].
There are conflicting data on the relationship between obstetric outcomes and uterine fibroids, and the mechanism by which fibroids influence obstetric outcomes is unclear. Some studies have shown a relationship between uterine fibroids and pregnancy complications, such as preterm birth, premature rupture of membranes (PROM), fetal malpresentation, placental abruption and intrauterine fetal demise [5, 7].
In addition, uterine fibroids have been linked to labor dystocia, puerperal infection, operative vaginal delivery, cesarean delivery and postpartum hemorrhage (PPH) [8]. In contrast; other studies have reported no increased risks for these adverse obstetric outcomes with uterine fibroids [9].
Hence the present study was conducted with the aim to assess the outcome of pregnancies with fibroids and any associated complications.

## Materials and Methods
The present prospective observational clinical study was conducted in the Department of Obstetrics and Gynecology, Patna Medical College and Hospital, Bihar.

### Inclusion Criteria
1. Those who have provided the informed consent
2. Singleton pregnancy
3. Gestational age of 24-42 weeks at the time of delivery
4. Booked patients
5. Patients with fibroid of ≥2 cm were included in the study

### Exclusion Criteria
1. Women with pathological conditions (chronic hypertension, gestational diabetes or pre-existing diabetes mellitus, uterine anomalies or fetal malformations).
2. Multiple- pregnancy
3. Unbooked patients
4. Patients who have not signed the informed consent

### Ethical approval and Informed consent
The study protocol was reviewed by the Ethical Committee of the Hospital and granted ethical clearance. After explaining the purpose and details of the study, a written informed consent was obtained.

### Data collection
Maternal demographic characteristics, medical and obstetrical history and pregnancy outcomes were collected from Medical Record Viewer database of Hospital along with manual retrieval from medical charts and labor records using standardized data collection forms. Of the 619 women who delivered during the study period, 112 patients met the inclusion criteria. Hence the final sample achieved was 112.

### Statistical analysis
The recorded data was compiled and entered in a spreadsheet computer program (Microsoft Excel 2010) and then exported to data editor page of SPSS version 19 (SPSS

Inc., Chicago, Illinois, USA). Descriptive statistics included computation of percentages and means.

## Results

**Table 1:** Demographic and clinical profile of the study population

| **Age** | **28.14±4.26** |
|---|---|
| BMI | 26.79±3.39 |
| Gravida | |
| Primigravida | 38 (33.9%) |
| Multi-gravida | 74 (66.1%) |
| Type of Conception | |
| Spontaneous | 59 (52.7%) |
| Assisted | 53 (47.3%) |
| Number of Fibroids | |
| Single | 78 (69.6%) |
| Multiple | 34 (30.4%) |

**Table 2:** Antenatal and postnatal maternal outcome

| **Outcome** | **N (%)** |
|---|---|
| Threatened Miscarriage | 18 (16.1%) |
| Pre-term Labor | 14 (12.5%) |
| Placenta Previa | 3 (2.7%) |
| Postpartum hemorrhage | 2 (1.79%) |
| Spontaneous abortion | 27 (24.1%) |
| Premature delivery | 17 (15.2%) |
| Cesarean sections | 41 (36.6%) |

**Table 3:** Fetal Outcome

| **Outcome** | **N (%)** |
|---|---|
| Fetal Weight (Kgs) | 2.81±0.71 |
| Congenital anomaly | 2 (1.78%) |
| NICU stay (Days) | 2.31±1.39 |

## Discussion

Mean maternal age in our study was found to be 28.14 years, which is comparable to other studies, showing occurrence of leiomyomas in second and third decades of life [10, 11].

In the present investigation 33.9% patients were primigravida and 66.1% were multigravida. We found that fibroids were less frequent in first pregnancy compared to multigravida. This is in consistent with earlier studies by Noor *et al.* [11] (73.33% multigravida and 23.66% primigravida) and Sarwar *et al.* [10] (63% multigravida and 37% primigravida).

Regarding obstetric complications, in our study 27 (24.1%) had spontaneous abortion. High incidence of abortions in patients with fibroids is in agreement with results from earlier studies [10, 12]. The proposed mechanism is compressed endometrial vascular supply, affects the fetus adversely resulting in abortion [10].

In the present investigation 69.6% patients reported single fibroid and 30.1% reported multiple fibroids. Lam *et al.* [13] reported a higher rate of preterm delivery among patients with multiple fbroids compared with those with a single fibroid. Likewise, Ciavattini *et al.* [7] monitored raised preterm delivery, cesarean delivery, and breech presentation rates among individuals with multiple fibroids compared with single fibroids or no fibroids. However, Qidwai *et al.* [5] reported no correlation between increased numbers of fibroids and adverse obstetric outcomes and Lai *et al.* [9] recorded no relationship between preterm delivery and fibroid number.

In our study, cesarean section was reported among 36.6% of the subjects. Similarly, in various studies, rate of cesarean section ranges between 34% and 73%. Klatsky *et al.* 2008 recorded that women with fibroids were at a 3.7-fold increased risk of cesarean delivery [12].

## Limitation

Our study had limitations of being just observational one not having a comparing group, the sample size was small, and some popular concepts could have resulted in a high cesarean delivery rate.

## Conclusion

Most of the fibroids are asymptomatic but may adversely affect the path of pregnancy and labor dependent on their location and size. The present study revealed that fibroids were found to be responsible for high incidence of complications throughout antepartum, intrapartum, and postpartum period. So, they have to be carefully screened in the antenatal period through regular follow-up.

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