

# Case Series: A Retrospective Study of Pregnancy Outcome with Uterine Fibroids

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## ABSTRACT

Leiomyomas are benign smooth muscle tumors of the uterus found in 20 to 50% of women of reproductive age. The objective of this study was to evaluate the fetomaternal outcome in women having pregnancy with uterine leiomyomas. We compared the clinical, obstetric data, perinatal outcomes of 28 patients from a retrospective study of 5 years in our hospital. Twenty-eight pregnant women with fibroid >5 cm were included in our study. Major proportion of patients with fibroids were in younger age group of 20 to 25 and 25 to 30 years when compared with older age group of 31 to 35 years. Fibroids were more frequent in primigravida compared with multigravida.

The complications were acute abdomen, cephalopelvic disproportion, antepartum hemorrhage (APH), preterm labor, malpresentation, postpartum hemorrhage (PPH), dysfunctional labor, intrauterine growth restriction (IUGR), and retained products of placenta. Cesarean section was done in 100% of women who attained term pregnancy and one patient had technical difficulty during cesarean section with intramural fibroid extending to lower segment of size 15 × 11 cm. Because of these complications, the pregnancy with fibroids should be considered as high-risk pregnancy.

**Keywords:** Cesarean section, Fibroids, Pregnancy outcome.

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## INTRODUCTION

Leiomyomas are tumors that arise from smooth muscle of the uterus, which are benign in nature. It is more commonly seen in females of childbearing age group and constitutes almost 20 to 50%.<sup>1</sup>

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The incidence of fibroids varies from 0.1 to 12.5%.<sup>2</sup> It is observed that they increase with pregnancy and as maternal age increases chances of women having fibroids are more. The size of the fibroid is an important factor in its growth during pregnancy, usually fibroids <5 cm tend to regress or remain stable, whereas fibroid >5 cm have capacity to grow.<sup>3-6</sup> The size of fibroid is an important factor as there are variable risk and complications associated with fibroid.

The complications are acute abdomen, cephalopelvic disproportion, APH, preterm labor, malpresentation, PPH, dysfunctional labor, IUGR, and retained products of placenta.<sup>7-11</sup>

According to the different positions of fibroids, these complications are more pronounced with submucosal and retroplacental fibroids,<sup>6</sup> but all these complications do not affect the perinatal outcome.

Because of all these complications associated with fibroids during pregnancy, it has been a topic for research for many years. However, in our Asian population, especially Indians, there is less of literature regarding the same.<sup>1,12,13</sup>

Hence, we took up this retrospective study in a tertiary care center to infer pregnancy outcome with uterine fibroids in an Indian population and we took a case series of 28 patients attending our outlet setting.

## OBJECTIVE

- To assess the outcome of pregnancy in patients with uterine fibroids.

## CHARACTERISTICS OF PATIENTS

All the demographic features are summarized from Tables 1 to 8. In our study, comparing the parity, 13 patients were primigravida and 25 were multigravida, of which five patients had recurrent pregnancy loss.

The recurrent pregnancy loss was three, two, and one abortions among one, four, and six patients respectively. The mean age was 26.6 years.

Among the most common indication of cesarean section, six patients had cesarean delivery at maternal request, of which two patients had combined indication of recurrent pregnancy loss and maternal desire, two had cesarean section for prolonged labor and nonprogression of labor, two had indication as previous cesarean section

**Table 1:** Maternal demographic features

Age	Parity	Type of conception	Time of diagnosis
23	G1	S	BC
22	G2A1	S	14
28	G3A2	S	14
31	G4A3	OI	BC
33	G2P1L1	S	28
28	G2A1	S	24
27	G1	S	16
28	G1	OI	14
28	G2A1	OI	14
22	G1	S	16
23	G1	S	18
29	G2P1D1	S	14
22	G1	S	14
21	G1	S	14
19	G1	S	18
30	G1	OI	18
33	G3A2	S	16
28	G2A1	S	14
36	G4P1D1A2	S	14
23	G1	S	14
22	G1	S	16
25	G2A1	S	16
25	G21L1	S	18
21	G2P1L1	S	18
28	G1	S	24
30	G1	OI	BC
30	G2A1	OI	14
31	G3A2	S	18

S: Spontaneous; OI: Ovulation induction; G: Gravida; P: Para; L: Living; A: Abortion; D: Dead; BC: Before conception

**Table 2:** Ultrasound characteristics of fibroids, n = 28

Number	Site	Size
1	Im	13
1	Im	5
Multiple	Im/Ss	5/5.5
Multiple	Im/Ss	5.5/6
1	Im	5
1	Im	7
1	Ss	6
1	Im	5
1	Ss	6
1	Im	5.5
1	Im	6
1	Im	7
1	Im/Ss	8
1	Im	5
Multiple	Im/Ss	5.5/6
Multiple	Im/Ss	6.5/7
1	Im	5
1	Im	5
1	Im	5
1	Im	6
1	Ss/Im	7
1	Ss/Im	12
1	Im/Ss	10
1	Ss	8
Multiple	Ss/Im	9/9.5
1	Ss	5
1	Ss/Im	5.5/5

Ss: Subserosal; Im: Intramural

**Table 3:** Antenatal complications, n = 28

Anemia	Pain abdomen	PROM	PTL	IUGR	APH
Y	Y	N	N	N	N
N	N	N	N	N	N
N	N	N	N	N	N
Y	Y	N	N	N	N
N	N	N	N	N	N
N	N	N	N	N	N
N	N	N	N	N	N
N	N	N	N	N	N
N	N	N	N	N	N
N	N	N	N	N	N
N	N	N	N	N	N
Y	N	N	N	Y	N
N	N	N	N	N	N
Y	N	N	N	N	N
Y	N	N	N	Y	N
N	Y	N	N	N	N
N	N	N	N	N	N
N	N	N	N	N	N
N	N	N	N	N	N
Y	N	N	N	N	N
Y	Y	N	Y	N	N
Y	Y	N	Y	N	N
N	N	N	N	Y	N
Y	Y	N	N	Y	N
N	N	N	N	N	N
Y	Y	N	N	N	N

PROM: Premature rupture of membranes; PTL: Preterm labor; Y: Yes; N: No

in labor not willing for vaginal birth after cesarean, 15 patients had prolonged labor and three had fetal distress for which cesarean was done.

When diagnosis of fibroid was taken into consideration, it was diagnosed prenatally in 3 patients out of 28 patients through ultrasonography. When number and position of the fibroid were seen, it was found that 18 out of 28 had single fibroid and 10 had multiple fibroids varying in position and location. Most common location was intramural followed by subserosal.

When it came to complications related to fibroids in pregnancy, there were two patients who had preterm labor and 26 had term delivery. Anemia was seen followed by pain and threatened preterm.

Complications like PPH, IUGR, preterm delivery, respiratory distress syndrome, and neonatal intensive care unit admission were seen in such patients with varying degree. There was no neonatal and maternal death in our study.

Considering maternal demographic data where n = 28 patients, we grouped them under patients who conceived spontaneously or took ovulation induction treatment, which is more common in our hospital.

**Table 4:** Intrapartum variables, n = 28

<i>GA at delivery</i>	<i>Malpresentation</i>	<i>Obstructed labor</i>	<i>Prolonged labor</i>	<i>PPH</i>	<i>Technical difficulty</i>
Term	N	N	N	Y	Y
Term	N	N	N	N	N
Term	N	N	N	N	N
Term	N	N	N	N	N
Term	N	N	N	N	N
Term	N	N	N	N	N
Term	N	N	N	N	N
Term	N	N	N	Y	N
Term	N	N	N	N	N
Term	N	N	N	N	N
Term	N	N	N	N	N
Term	N	N	N	N	N
Term	N	N	Y	N	N
Term	N	N	Y	Y	N
Term	N	N	N	N	N
Term	N	N	N	N	N
Term	N	N	N	N	N
Term	N	N	N	N	N
Term	N	N	N	N	N
Term	N	N	N	N	N
Term	N	N	N	Y	N
Term	N	N	N	N	N
34 weeks	N	N	Y	Y	Y
35 weeks	N	N	Y	Y	N
Term	N	N	Y	Y	Y
Term	N	N	Y	Y	N
Term	N	N	N	N	N
Term	N	N	N	N	N

GA: Gestational age; Y: Yes; N: No

**Table 5:** Postpartum variables, n = 28

<i>Blood transfusion</i>	<i>Sepsis</i>	<i>LSCS</i>
Y	N	Y
N	N	Y
N	N	Y
N	N	Y
N	N	Y
N	N	Y
N	N	Y
N	N	Y
N	N	Y
N	N	Y
N	N	Y
N	N	Y
N	N	Y
N	N	Y
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N	N	Y
N	N	Y
N	N	Y
N	N	Y
N	N	Y
N	N	Y
N	N	Y
N	N	Y
N	N	Y
Y	N	Y
N	N	Y
Y	N	Y
N	N	Y
N	N	Y
N	N	Y

LSCS: Lower segment cesarean section

**Table 6:** Perinatal outcome, n = 28

<i>Term</i>	<i>Birth weight</i>	<i>Birth asphyxia</i>	<i>NICU admission</i>
Term	2.5	N	Y
Term	2.76	N	N
Term	2.8	N	N
Term	2.9	N	N
Term	3	N	N
Term	3.1	N	N
Term	3.5	N	N
Term	2.8	N	N
Term	2.75	N	N
Term	2.4	N	N
Term	2.4	N	N
Term	2.5	N	N
Term	2.1	N	Y
Term	2.8	N	N
Term	2.9	N	N
Term	2.0	N	Y
Term	2.1	N	Y
Term	2.8	N	N
Term	3	N	N
Term	2.6	N	N
Term	2.5	N	N
Term	2.6	N	N
34 weeks	2.0	N	Y
35 weeks	2.1	N	Y
Term	2.3	N	Y
Term	2.25	N	Y
Term	2.6	N	N
Term	2.7	N	N

N: No; Y: Yes



**Table 7:** Association between number of fibroids and key pregnancy outcome variables

Variables	Single	Multiple	p-value	Significance
<i>Anemia</i>				
Present	2 (11.2%)	9 (90%)	<0.001*	S
Absent	16 (88.8%)	1 (10%)		
<i>IUGR</i>				
Present	1 (5.5%)	4 (40%)	<0.041**	S
Absent	17 (94.5%)	6 (60%)		
<i>Gestational age at delivery</i>				
Term	18 (100%)	8 (80%)	0.119**	NS
Preterm	0	2 (20%)		
<i>PPH</i>				
Present	4 (22.2%)	4 (40%)	0.400*	NS
Absent	14 (77.8%)	6 (60%)		
<i>Birth weight</i>				
<2.5 kg	6 (33.3%)	3 (30%)	1.00*	NS
≥2.5 kg	12 (66.4%)	7 (70%)		
<i>NICU admission</i>				
Yes	3 (16.6%)	6 (60%)	0.035**	S
No	15 (83.4%)	4 (40%)		

\*Chi-square test; \*\*Fischer's exact test; S: Significant; NS: Not significant

**Table 8:** Association between size of fibroids and key pregnancy outcome variables

Variables	<7 cm	>7 cm	p-value	Significance
<i>Anemia</i>				
Present	6 (27.2%)	5 (83.3%)	0.022*	S
Absent	16 (72.3%)	1 (16.4%)		
<i>Pain abdomen</i>				
Present	2 (9.09%)	5 (83.3%)	<0.001**	S
Absent	20 (90.9%)	1 (16.4%)		
<i>IUGR</i>				
Present	0	5 (83.3%)	<0.001**	S
Absent	22 (100%)	1 (16.4%)		
<i>Gestational age</i>				
Term	21 (95.4%)	5 (83.3%)	0.389*	NS
Preterm	1 (4.6%)	1 (16.4%)		
<i>PPH</i>				
Present	2 (9.09%)	6 (100%)	<0.001**	S
Absent	20 (90.9%)	0		
<i>Technical difficulties</i>				
Present	0	3 (50%)	0.006**	S
Absent	22 (100%)	3 (50%)		
<i>Birth weight</i>				
<2.5 kg	4 (18.18%)	5 (83.3%)	<0.001**	S
≥2.5 kg	18 (81.82%)	1 (16.7%)		
<i>NICU admission</i>				
Required	4 (18.18%)	5 (83.3%)	0.007**	S
Not required	18 (81.82%)	1 (16.7%)		

\*Chi-square test; \*\*Fischer's exact test; S: Significant; NS: Not significant

We divided the patients based on parity, age, type of conception, time of diagnosis of fibroid, location of fibroid, and different complications related to it as mentioned earlier.

## MATERIALS AND METHODS

Retrospective study was done in our tertiary care hospital (RL Jalappa Hospital), Kolar, Tamaka, India, for a period of 5 years from 2012 to 2016. A total of 28 patients with their demographic, clinical, obstetric data and perinatal outcomes were presented. Statistical analysis was done by chi-square test and Fischer's exact test.

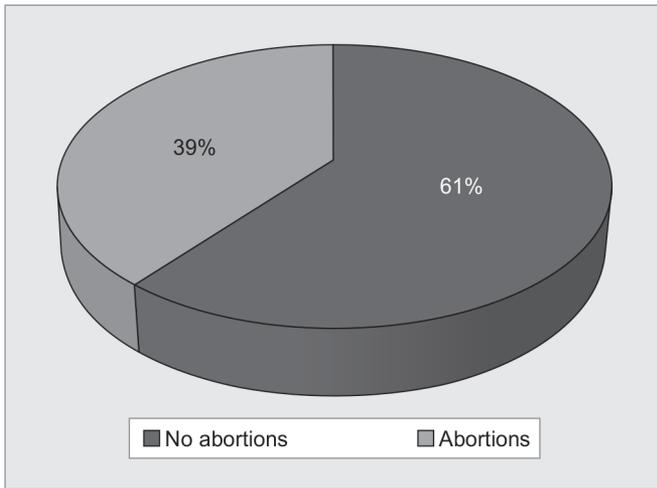
## RESULTS

Results are summarized through Graphs 1 to 7. History of abortions were found in 61% of patients with fibroids. Primigravida and patient who spontaneously conceived had higher incidence of fibroids. Majority of the patient had single fibroid being subserosal. Common indication for cesarean delivery was found to be Non Progression of labour

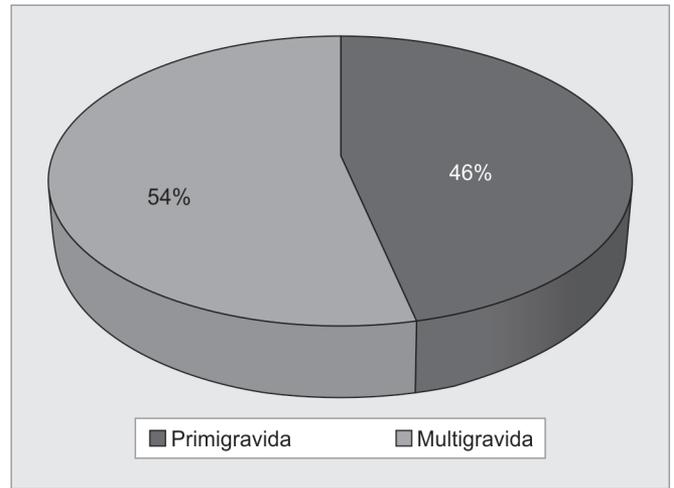
## DISCUSSION

This retrospective study was done in our tertiary care center to assess the fetomaternal outcome of pregnancy complicated with fibroid.

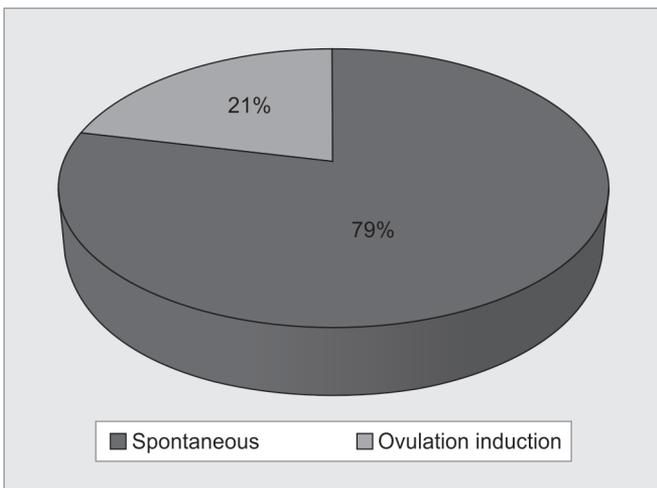
The maternal age at which it was more common was 26.6 years, i.e., second and third decades of life, which is comparable with other studies. As far as obstetric outcome is considered, it was found that patient had more



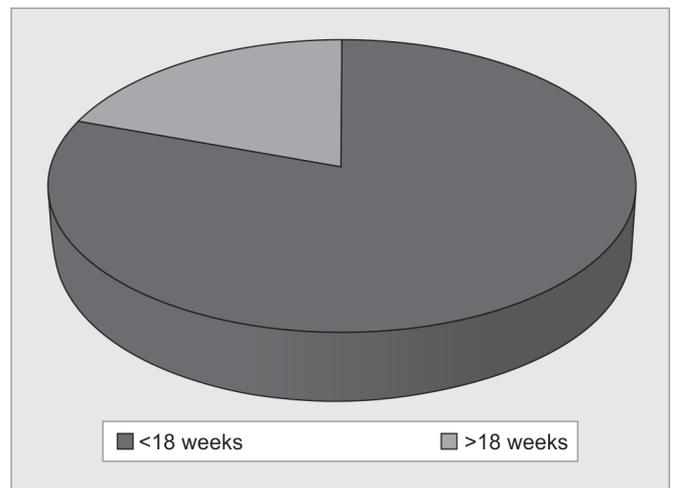
Graph 1: History of abortions



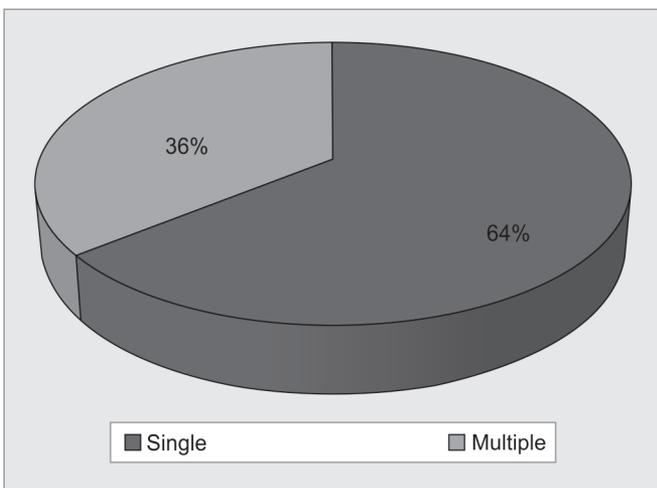
Graph 2: Parity



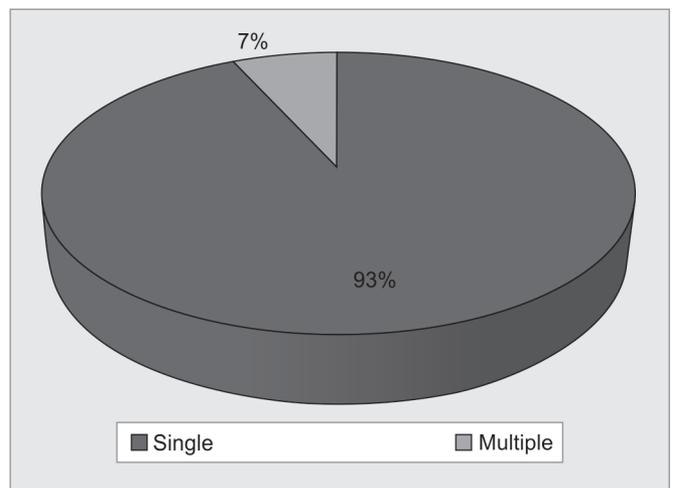
Graph 3: Type of conception



Graph 4: Time of diagnosis with ultrasound



Graph 5: Number of fibroids

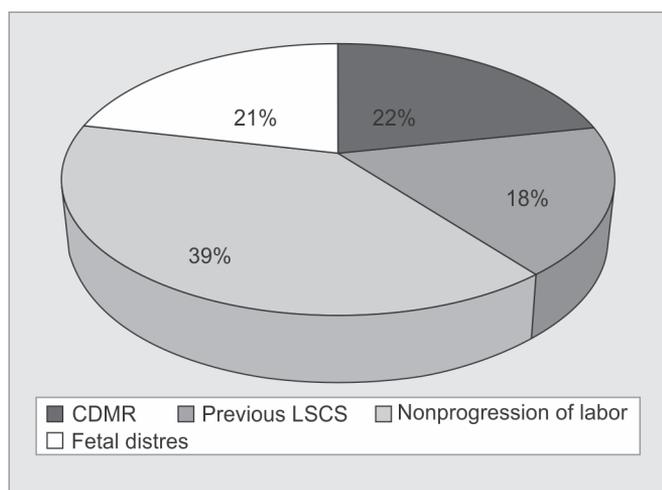


Graph 6: Location of fibroids

recurrent pregnancy loss with fibroids, the mechanism being less endometrial vascular supply, which affects the fetus; this was comparable to other studies.

The incidence of preterm labor was less in our study compared with that of Sarwar et al.<sup>1</sup> But the incidence

of anemia was similar to the study. Regarding mode of delivery all patients underwent lower segment cesarean section, which was similar to that of Sarwar et al.<sup>1</sup> Pain abdomen was noted in patients, which was due to red degeneration in pregnancy as a result of fibroids, which



**Graph 7:** Indications of lower segment cesarean section

was relieved by bed rest, analgesics, and reassurance.<sup>12,14</sup> Surgical management is reserved in patients with subserosal and pedunculated fibroids with pain and who do not respond to conservative management. The PPH was similar to that of Noor et al<sup>2</sup> but higher than that of Lam et al.<sup>3</sup>

In our study technical difficulties were seen in three patients owing to larger size of the fibroid, similar to that of Sarwar et al.<sup>1</sup> However, no patient in our study required cesarean hysterectomy, as compared with 13.33% in Noor et al study.<sup>2</sup> Cesarean myomectomy should be avoided unless fibroid is in line of incision. In our study, various complications like obstructed labor, adherent placenta, abruption placentae, prolapse of pedunculated fibroid, as reported in earlier studies, were not observed.<sup>8-10,12,15</sup>

## CONCLUSION

Pregnancy with fibroids is associated with various untoward obstetric outcome, which included not only increased incidence of cesarean section rates, but also preterm labor, anemia, and PPH.

Hence, pregnancy with fibroid should be considered as a high risk pregnancy and should not be neglected for a better fetomaternal outcome.

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