



## Maternal and Fetal Outcome in Fibroid Complicating Pregnancy in a Tertiary Care Centre

Authors

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### Abstract

**Background:** Fibroid is the most common benign tumour of the uterus. Their incidence in pregnancy is between 1-2%. Complication can occur in 10-40% in the presence of fibroids.

**Aim:** The aim of our study is to assess the maternal and fetal outcome in pregnancies complicated with fibroid of gestational age >28 weeks. Study setting: study conducted in Department of Obstetrics & Gynaecology, SAT Hospital which is a tertiary care centre attached to Government Medical College, Thiruvananthapuram.

**Materials and Methods:** This is a cohort study over a period of 2 years. The exposed group consists of pregnant patients with fibroid uterus and non exposed group consists of pregnant patients without fibroid uterus. The antepartum, intrapartum and postpartum complications and the fetal outcome were studied. Data analysis was done using statistical constants like mean, median, Odds ratio.

**Results:** Incidence of pregnancy with fibroid was 1 in 231.64% belonged to the age group of 30-34 years. 55% of patients were primiparous. 34% of the patients remained asymptomatic during the antenatal period. There was a tenfold chance of developing abdominal pain during pregnancy mostly in intramural fibroids and with size >6cm. There was a 3 fold increased risk for placenta praevia and 3 fold increased risk for malpresentations in patients with fibroid uterus. Caesarean section rate was 2 times more in patients with fibroid. Mean gestational age of delivery was 38.05 weeks. Threatened, preterm labour was seen in 14.7% of patients with leiomyoma. PPH was 3 times more in the exposed group. Myomectomy was done along with caesarean section in 41.8% of patients.

**Conclusion:** Pregnancy with fibroid is associated with antepartum, intrapartum and post-partum complications. Better antenatal care, prompt management of complications, good intrapartum care and neonatal care facilities in a tertiary care centre can improve the outcome in pregnancies complicated by fibroids.

**Keywords:** fibroid, leiomyoma, placenta praevia, caesarean section, myomectomy, malpresentation.

### INTRODUCTION

Myomas are a common benign smooth muscle tumor of the uterus. They are found in approximately 35-77% of women of reproductive age<sup>1</sup>. They have been found to be associated with menstrual disorders and pelvic pain and can negatively affect fertility and pregnancy outcome. The reported incidence of fibroids in pregnancy

ranges from 0.1 to 10.7% of all pregnancies. Incidence of fibroid increases with maternal age who are older than 35 years of age and in nulliparas<sup>2</sup>. Pregnant women with myoma are at increased risk of cesarean delivery, breech presentation, malposition, and preterm delivery. Fibroid (5 cm) tend to grow during the pregnancy<sup>3</sup>. The risk of adverse events in pregnancy increases

with the size of the fibroid. Different complications with variable rates of incidence have been reported in pregnancy with fibroids which include antepartum hemorrhage, acute abdomen, laparotomy, preterm labor, fetopelvic disproportion, malposition of the fetus, retention of the placenta, postpartum hemorrhage (PPH), red degeneration, dysfunctional labor, retained placenta, and retained products of conception, intrauterine growth restriction. These complications are more commonly seen with large submucosal and retroplacental fibroids.<sup>12</sup> Even though there is higher cesarean section rate in women with fibroids, the presence of uterine fibroids should not be regarded as a contraindication to a trial of labour.<sup>13</sup> Cesarean rate is higher particularly in women with large fibroids.

#### MATERIALS AND METHODS

This study was conducted in SAT Hospital, a tertiary care centre attached to Government Medical College, Thiruvananthapuram for a period of 2 years as a hospital based cohort study. The exposed group was antenatal patients of gestational age 28 weeks and above with fibroid uterus and the non-exposed group was patients of gestational age 28 weeks and more without fibroid uterus confirmed by ultrasound. Cases with fibroids < 3 cm and cases with ovarian cyst complicating pregnancy were excluded from the study. Data collected using questionnaire regarding the maternal age, parity, socioeconomic and educational status, diet, family history, history of infertility and previous abortions. Antepartum complications, mode of onset of labour, gestational age at delivery, mode of delivery, type of caesarean section, caesarean myomectomy if done, any PPH, history of blood transfusion, duration of hospital stay were studied. The fetal outcome assessed by studying the fetal weight, Apgar score, whether term or preterm, IBN admissions and any neonatal death. Data analysed using statistical constants like mean, percentage, Odds ratio to see the association between the variables.

#### RESULTS OF THE STUDY

There were 31709 deliveries in our hospital during the study period with 137 cases (0.432%) of pregnancy with fibroid giving an incidence of 1 in 231. Mean age of mothers in the study was 30.7 years of which 46.7% of mothers belonged to 30-34 year age group in the exposed group. Both groups were comparable with respect to parity and booking status. Better income and higher level of education were more found in the exposed group. This may be related to their diet (non veg diet) and increasing age of marriage more in the exposed group. Family history of fibroid in first degree relatives had an association with a Relative Risk of 9.5. History of infertility was more in the exposed group (39.4%) compared to the non exposed group (8%). There was no statistically significant association with previous history of abortion and fibroid in our study.

#### Distribution according to maternal complications

Complications	Exposed		Non exposed	
	Number	%	Number	%
Asymptomatic	52	34.7	103	75.2
Pain abdomen	41	27.3	5	3.6
Bleeding P <sub>v</sub>	11	7.3	6	4.4
APH	2	1.3	0	
PROM	6	4	5	3.6
A/C Urinary retention	2	1.3	1	0.87
Placenta praevia	9	6	3	2.2
Medical complications	20	13.3	6	4.4
Threatened Preterm labour	17	14.7	9	6.6

The same patient had more than 1 complication in the exposed group. Medical complications were seen in 13.3% of patients in the exposed group and 4.4% in the non-exposed group. GDM was the commonest (8 cases) in the exposed. In the study the most common symptom was pain abdomen (44.1%) followed by threatened preterm labour (14.7%) in the exposed group. Threatened preterm labour was noted in 6.6% in the non exposed group.

Analysis of symptoms in pregnancy with fibroid.

	Exposed		Non Exposed	
	Number	%	Number	%
Pain abdomen	41	44.1	5	4.77
Asymptomatic	52	55.7	101	95.3
Total	93	100	106	100

X<sup>2</sup>=41.02,OR=15.93 CI(5.58-48.98)RR=9.35 CI(3.85-22.66)

	Exposed		Non Exposed	
	Number	%	Number	%
Bleeding PV	11	17.5	6	5.6
Asymptomatic	52	82.5	103	94.4
Total	63	100	109	100

X<sup>2</sup>=4.94 p=0.026,OR=3.56 CI(1.13-11.56)RR=3.11 CI(1.21-8.01)

	Exposed		Non Exposed	
	Number	%	Number	%
Placenta Previa	9	14.8	3	2.8
Asymptomatic	52	85.2	103	97.2
Total	61	100	106	100

Fischer's exact test applied P=0.009 OR=5.942 CI(1.543-22.888)RR=5.213 CI(1.467-18.528)

There was significant difference showing that pain abdomen, bleeding PV and placenta praevia was associated with fibroid uterus complicating pregnancy.

2 cases had urinary retention in both groups.

Analysis of gestational age at delivery

Gest. Age	Exposed	%	Non exposed	%
30 wks	1	7	0	0
34	4	2.9	3	1.7
36	12	11.5	3	1.7
37	13	12	11	8
38	56	38.2	46	34.6
39	33	21.4	57	41.6
40	18	13.1	17	12.4
Total	137	100	137	100
Mean	38.05		38.45	
Median	38		39	
SD	1.47		1.11	

There was no significant difference noted in the gestational of delivery between the two groups

Analysis of term vs preterm

	Exposed		Non Exposed	
	Number	%	Number	%
Type of labour	17	14.7	9	6.6
Preterm	120	87.3	128	93.4
Total	137	100	137	100

Distribution according to malpresentation

	Exposed		Non Exposed	
	Number	%	Number	%
Breech	22	16.1	8	5.8
No	115	83.9	129	94.2
Total	137	100	137	100

X<sup>2</sup>=6.33 P=0.0119 OR=3.08 CI(1.24-7.87)RR=2.75 CI(1.27-5.96)

There was a significant relative risk for malpresentation in fibroid patients.

Distribution according to mode of delivery

Mode of Delivery	Exposed		Non Exposed	
	Number	%	Number	%
Cesarean	79	57.7	30	21.9
Vaginal	58	42.3	107	78.1
Total	137	100	137	100

X<sup>2</sup>=35.1 p=0.0000 OR=4.86 CI(2.77-8.54)RR=2.63 CI(1.86-3.73)

C.S in the exposed group was significantly more (57.7%) compared to non exposed group(21.9%)

Distribution according to type of C.S

Type of CS	Exposed		Non Exposed	
	Number	%	Number	%
Elective	48	60.8	11	36.7
Emergency	31	39.2	19	63.3
Total	79	100	30	100

X<sup>2</sup>=4.16 P=0.0414 OR=2.67 CI(1.03-7.00) RR=1.66 CI(1.00-2.74)

Elective C.S was significantly higher in the exposed group.

Distribution according to PPH

PPH	Exposed		Non Exposed	
	Number	%	Number	%
Yes	16	11.7	5	3.6
No	121	88.3	132	96.4
Total	137	100	137	100

X<sup>2</sup>=6.240 P=0.012 OR=3.491 CI(1.241-9.818) RR=3.200 CI(1.206-8.941)

PPH was significantly high in the exposed group (11.7%) compared with non exposed group(3.6%) 53 patients (39%) were given prostodin in the exposed group compared to 7 cases (5.2%) in the non exposed group and this was significant.

Distribution according to blood transfusion

Blood Transfusion	Exposed		Non Exposed	
	Number	%	Number	%
Yes	25	18.9	7	5.3
No	112	81.1	135	94.7
Total	137	100	137	100

X<sup>2</sup>=10.42 P=0.00124 OR=4.21 CI(1.65-11.16)RR=1.61 CI(1.61-8.03)

Significantly more number of patients were given blood transfusion in the exposed group.1 patient in the exposed group had to be given 6 pints of blood during caesarean myomectomy.

Relation of complication to the type of fibroid

Complication	Total	Subserous	Intramural	Submucous	Mixed
		N %	N %	N %	N %
Asymptomatic	52	18 (34.6)	3 (5.8)		31 (59.6)
Pain abdomen	41	8 (18.6)	28 (65.1)		7 (16.3)
Bleeding pv	11	3 (27.3)	5 (45.5)	1 (9.1)	2 (18.2)
Placenta praevia	9	1 (11.1)	3 (33.3)		5 (55.6)
Preterm labour	17	1 (5.9)	14 (82.4)		2 (11.7)
PPH	16	2 (12.5)	8 (50)		6 (31.5)

Fibroids of size between 3-8 cm were associated with complications like pain abdomen, bleeding pv, preterm labour and post partum haemorrhage. 73.1% of the asymptomatic fibroids were of size 3-5 cm. Two patients in the exposed group had Classical CS done, one for multiple fibroids with placenta praevia and the other for multiple fibroids with transverse lie of fetus.

There was no significant difference in the instrumental delivery rate among the groups.

Of the 79 caesarian section cases done in the exposed group, 33 cases (41.8%) had myomectomy also done for the fibroid.32 subserousmyomas and 19 intramural myomas were removed

along with CS. Bilateral uterine artery ligation was helpful to reduce the bleeding during caesarean myomectomy.

In the puerperium 30 (21.9%) cases in the exposed group had excessive lochia compared to 2(1.5%) patients in the non exposed group and was statistically significant (RR=15.00).The number of days of hospital stay after delivery was more in the exposed group (mean-6.04 days)compared to non exposed group (mean-4.36) and was statistically significant. There was no hysterectomy or maternal mortality related to the fibroid uterus during my period of study.

On analyzing the neonatal outcome there was no statistically difference in the birth weight, Apgar score and neonatal death rate among the 2 groups. The NICU admission was there in 27 cases (22.45%) in exposed and in 4 cases (2.9%) in the non exposed group with an odds ratio of 4.71.The cause of neonatal death in the exposed group was IUGR and neonatal sepsis in 2 cases, congenital anomaly in 1 case and extreme preterm in 1 case. The non exposed group had a NND due to sepsis.

### CONCLUSION

Pregnancy in women with fibroid is considered to be a high risk pregnancy having higher rates of complications like abortion, malpresentation, preterm labour, PROM, placenta praevia, pain abdomen, PPH etc. They need frequent antenatal visits. Timely and accurate diagnosis of complications and their management leads to a favourable outcome for mother and baby. These women should deliver in a tertiary care centre with blood bank and NICU facility. In carefully selected cases caesarean myomectomy done by experts carries good success.