

Original research article

## Fibroid uterus and its impact on feto-maternal outcome in pregnancy: A prospective study

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### Abstract

**Aim:** to determine the maternal and fetal outcome in pregnancy complicated by fibroid uterus.

**Material and methods:** A prospective study was conducted in the Department of Obstetrics and Gynecology, Teerthanker Mahaveer Medical College & Research Centre, Moradabad, Uttar Pradesh, India, for 1 year. Total 100 women admitted with the diagnosis fibroid with pregnancy during our study period were included. Ultrasonogram done at booking visit and patients with fibroid of 5 cm and above were included in the study.

**Results:** Total 100 women who were having pregnancy with fibroids were included. The mean age in our study population is 28.7 years. Fibroids were more frequent in multigravidae 74 (74%), and primigravidae were 26 (26%). 38(38%) women were asymptomatic during pregnancy. Out of 100 women, 28 (28) were known the case of fibroid became pregnant, remaining 72 (72%) were diagnosed as having fibroid during routine antenatal visits. 23 women (23%) had pain, 13 of them (13%) had threatened preterm labor, 10 (10%) had spontaneous miscarriage, and 7(7%) had anemia, and placenta previa was diagnosed in 9 (9%).

**Conclusion:** Pregnancies with fibroids are associated with complications during antepartum, intrapartum, and PP period. They need frequent follow-up and evaluation. Most of the fibroids are asymptomatic, but may adversely affect the course of pregnancy and labor depending on their location and size.

**Key words:** Fibroid, Leiomyoma, Myoma, Myomectomy, Obstetric complications

### 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 0.01% to 10.7% of all pregnancies.<sup>2</sup> Literature documenting surgical management of fibroids during pregnancy is limited, and especially so in sub-Saharan Africa where ironically the incidence of uterine fibroid is commonest.<sup>3-6</sup> Although we have previously reported a case of successful myomectomy in early pregnancy.<sup>7</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, feto-pelvic 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.<sup>8-12</sup> These complications are more commonly seen with large submucosal and retro placental fibroids.<sup>13</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>14</sup> Cesarean rate is higher particularly in women with large fibroids. We have since then experienced increased encounter of cases of

myomas with intractable symptomatology in pregnancy, especially among patients with passionate desire to maintain safety of pregnancy owing to their socio-clinical background. Hence, the aim of the present study was to determine the maternal and fetal outcome in pregnancy complicated by fibroid uterus.

### Material and methods

A prospective study was conducted in the Department of Obstetrics and Gynecology, Teerthanker Mahaveer Medical College & Research Centre, Moradabad, Uttar Pradesh, for 1 year.

### Methodology

The present study was commenced after taking the approval of the institutional ethics committee and informed consent with detailed history was taken from the patient. Total 100 women admitted with the diagnosis fibroid with pregnancy during our study period were included. Ultrasonogram done at booking visit and patients with fibroid of 5 cm and above were included in the study.

### Results

Myomas are the most common benign smooth muscle tumors of the uterus. They have been found to be associated with pain, degeneration and can negatively affect fertility and pregnancy outcome. We included 100 women who were having pregnancy with fibroids. A major proportion was in the younger age group of 25-35 years (Table 1). The mean age in our study population is 28.7 years. Fibroids were more frequent in multigravidae 74 (74%), and primigravidae were 26 (26%) (Table 2). In our study 38 (38%) women were asymptomatic during pregnancy. Out of 100 women, 28 (28) were known the case of fibroid became pregnant, remaining 72 (72%) were diagnosed as having fibroid during routine antenatal visits (Table 3). 23 women (23%) had pain, 13 of them (13%) had threatened preterm labor, 10 (10%) had spontaneous miscarriage, and 7(7%) had anemia, and placenta previa was diagnosed in 9 patients (9%) (Table 4). 90 women (90%) were crossed 37 completed weeks of gestation. Out of 90, 25(27.78%) women had a vaginal delivery, outlet forceps applied in 4 women (4.44%), and ventouse applied in 4 women (4.44%). Lower segment cesarean section (LSCS) done in 55 women (61.11%), and cesarean hysterectomy proceeded in two women (2.22%) (Table 5). Indications for LSCS were, 14 women reported with malpresentation (25.45%), 9 women were with post-cesarean pregnancy (16.36%), placenta previa in 9 (16.36), premature rupture of membranes (PROM) with poor bishops score in 7 (12.73%), uterine inertia in 8 (14.55%), and non-progressive labor in 8 (14.55%) (Table 6). 18(20%) had PPH and myomectomy done in 9 (10%) patients. All 90 babies were with weight above 2.5 kg with good Apgar score. There was no perinatal and maternal mortality in our study.

**Table 1: Age of study population**

Age in years	n=100	Percentage
Below -25	19	19
25-30	32	32
30-35	41	41
Above 36	8	8

**Table 2: Parity wise distribution**

Gravidity	n=100	Percentage
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Primigravida	26	26
Multigravida	74	74

**Table 3: Duration of gestation at diagnosis**

Gestational age (weeks)	n=100	Percentage
Pre-pregnancy diagnosis	28	28
<12	43	43
13-20	13	13
21-28	13	13
29-36	3	3

**Table 4: Complication during pregnancy**

Complication	n=100	Percentage
Asymptomatic	38	38
Spontaneous miscarriage	10	10
Pain abdomen	23	23
PP	9	9
Threatened PTL	13	13
Anemia	7	7

**Table 5: Mode of delivery**

Mode of delivery	n=90	Percentage
SVD	25	27.78
Outlet forceps	4	4.44
Vacuum application	4	4.44
LSCS	55	61.11
Cesarean hysterectomy	2	2.22

SVD: Spontaneous vaginal delivery, LSCS: Lower segment cesarean section

**Table 6: Indication for LSCS (n=55)**

Indication for LSCS	n=55	Percentage
Malpresentation	14	25.45
Placenta previa	9	16.36
Post-cesarean pregnancy	9	16.36
PROM with poor Bishop score	7	12.73
Uterine inertia	8	14.55
Non progressive labor	8	14.55

PROM: Premature rupture of membranes, LSCS: Lower segment cesarean section

## Discussion

We have conducted this study to evaluate the maternal and fetal outcome in pregnancies complicated by leiomyomas. Mean maternal age in our study was found to be 28.7 years, which is comparable to other studies, showing occurrence of leiomyomas in second and third decades of life.<sup>15</sup> In our study, we found that fibroids were more frequent in multigravidae 74 (74%), and primigravidae were 26(26%) This is inconsistent with earlier studies by Sarwar *et al.*<sup>16</sup> (63% multigravida and 37% primigravida). Regarding obstetric complications, in our study, 10 out of 100 patients (10%) had a spontaneous abortion. High incidence of abortions in patients

with fibroids is in agreement with results from earlier studies.<sup>10</sup> The proposed mechanism is compressed endometrial vascular supply, affects the fetus adversely resulting in abortion.<sup>10</sup> In our study, 23/100 (23%) had pain abdomen, which is inconsistent with earlier studies.<sup>10,16</sup> Pain is the most commonly reported complaints and is seen most often in women with larger fibroids (more than 5 cm) during 2<sup>nd</sup> and 3<sup>rd</sup> trimesters of pregnancy. Fibroids may grow quickly and cause intense pain during pregnancy.<sup>9</sup> Patients with pain were managed conservatively. Cause of pain was due to red degeneration, which is thought to be result of effect of progesterone on fibroids, and occurs more commonly in pregnancy.<sup>17</sup>

Though 13/100 (13%) patients had a history of threatened preterm labor during pregnancy, all the 13 patients had continued their pregnancy until term. The incidence of preterm delivery was nil in our study compared to study by Sarwar *et al.* (33.3%).<sup>16</sup> The incidence of PP, (9/100, 9%) in our study when compared to Sarwar *et al.* (10%).<sup>16</sup> 7 patients (7%) had anemia.

Regarding the mode of delivery, 25 patients (27.78%) had spontaneous onset of labor and vaginal delivery. Out of 90 patients, 55 had LSCS (61.11%). Women with fibroids have a 3.6 fold increased risk of cesarean delivery. Cesarean incidence in our study is similar to studies by Klatsky *et al.*<sup>10</sup>

In our study the indications for LSCS were, 14 women reported with malpresentation (25.45%), 9 women were with post-cesarean pregnancy (16.36%), placenta previa in 9 (16.36), premature rupture of membranes (PROM) with poor bishops score in 7 (12.73%), uterine inertia in 8 (14.55%), and non-progressive labor in 8 (14.55%). 18 (20%) had PPH and myomectomy done in 9 (10%) patients, which is slightly high, compared with 14% in the study by Lam *et al.*<sup>18</sup> and myomectomy done in 5 (11.36%) patients.

Among 9 cases of myomectomy, 4 patients was a primigravida with myoma of 18 cm × 14 cm in the lower segment of the uterus more close to the line of the incision and was easily removed, and approximation of the uterine wound was also perfect after removal of the fibroid. The 4 cases of myomectomy was a multigravida with a very large sub serous fibroid of 20 cm × 18 cm in fundus of uterus in the anterior wall and it was removed without any difficulty.<sup>8</sup> The 1 case of myomectomy was a multigravida with previous cesarean delivery and the fibroid of 10 cm size located in the vicinity of lower uterine segment scar and was easily shelled out during surgery. During surgery blood transfused for all 9 myomectomies. Post-operative blood transfusion was not needed in all three. Before proceeding myomectomy, bilateral uterine artery ligation was done in all 9 myomectomies. All 9 were genuine indications for myomectomy.<sup>19</sup> No case of placental abruption and two woman with very large fibroid and uncontrolled PPH ended up in cesarean hysterectomy in our study. All 90 babies were with weight above 2.5 kg with good Apgar score. There was no perinatal and maternal mortality in our study.

## Conclusion

Pregnancies with fibroids are associated with complications during antepartum, intrapartum, and PP period. They need frequent follow-up and evaluation. Most of the fibroids are asymptomatic, but may adversely affect the course of pregnancy and labor depending on their location and size.

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