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An Assessment of the Obstetric Outcomes of Pregnancies Involving Uterine Fibroids in a Tertiary Care Facility

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ABSTRACT

Background: The most frequent benign tumours of the female reproductive system are uterine fibroids, which have a significantly lower incidence during pregnancy because they are linked to infertility and have poor implantation rates following in vitro fertilisation.

Aims & objectives: The purpose of this study was to examine the difficulties associated with uterine fibroids during pregnancy and their effects on obstetric outcomes in a tertiary hospital.

Material and Methods: The current study was a retrospective, hospital-based investigation into women who were identified as being pregnant with fibroid.

Results: The study included 152 pregnant women who had fibroid during pregnancy. The age groups of 26 to 30 years accounted for the majority of patients (44.74%), followed by 31 to 35 years (27.63%). Most patients (43.42%) were in the gestational stages 2-3. We observed that the majority of patients (68.42%) had subserous fibroids. found at the fundus area (73.68%), and a USG examination revealed 2-3 fibroids (47.37%). In the current study, the majority of cases (89.48%) were carried to term, while 3 cases were terminated, 2 cases gave birth between 21 and 32 weeks, and 3 cases gave birth between 33 and 37 weeks. The most frequent method of delivery was a caesarean section (71.05%), which was followed by vaginal delivery (19.74%). In addition to threatened preterm labour (15.79%), blood transfusion (14.47%), postpartum haemorrhage (9.21%), antepartum bleeding (7.89%), and threatened miscarriage (5.26%), patients in 60.53 percent of cases were asymptomatic throughout their pregnancies. Common problems included low APGAR Score at 5 minutes (10.53%), required resuscitation (10.53%), required NICU hospitalisation (17.11%), and low birth weight (5.26%). Abortion (3.95%), newborn stillbirth (1.32%), and neonatal mortality (1.32%) were the three foetal outcomes.

Conclusion: Pregnancies with fibroids carry a higher risk of difficulties throughout the antepartum, intrapartum, and postpartum periods. They are also more likely to result in caesarean sections and PPH.

Keywords: Uterine fibroids, pregnancy complications, maternal complications, postpartum hemorrhage

Introduction:

The most prevalent benign tumours of the female reproductive system, uterine fibroids develop from the smooth muscle cells of the uterus[1]. It affects 20–40% of women, although pregnancy is thought to increase the rate to 0.–3.9%. Given that uterine fibroid is linked to infertility and has low implantation rates following in vitro fertilisation, the considerably lower incidence of pregnancy may be understood[2-5]. Physical examinations can only diagnose 42% of big fibroids (> 5 cm) and 12.5% of smaller fibroids (3-5 cm). Due to the challenge of distinguishing fibroids from normal thickening of the myometrium, ultrasound's ability to detect fibroids in pregnancy is even more limited (1.4–2.7%). Pregnancy with fibroids has been linked to a

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number of complications, with varying rates of occurrence, including ante-partum haemorrhage, acute abdomen, laparotomy, preterm labour, foeto-pelvic disproportion, malposition of the foetus, retention of the placenta, post-partum haemorrhage, red degeneration, dysfunctional labour, retention of the placenta, retained products of conception, and intra uterine growth (IUGR) [6]. Additionally, pain from the pedunculated fibroid's degeneration or torsion, issues with pelvic pressure, and vaginal bleeding are the most frequent side effects of fibroids during pregnancy[7].

Aims & objectives: The purpose of this study was to examine the difficulties associated with uterine fibroids during pregnancy and their effects on obstetric outcomes in a tertiary hospital.

MATERIAL AND METHODS

The current study was a retrospective investigation carried out in a central Indian hospital's OBGY department. For this investigation, cases identified as fibroid-pregnant between January 2018 and December 2020 were taken into account. The institutional ethical committee gave its clearance for the study. In the study, pregnant women with uterine fibroid diagnosed antenatally or prenatally by USG were taken into account. Women who had previously undergone caesarean sections, surgeries of any kind, uterine malformations, or chronic conditions like diabetes or hypertension were not taken into consideration for this study. During the prenatal period, the case record proforma was used to record demographic information, the full antenatal, intrapartum, and postpartum history (maternal age, gravidity, parity, number and size of fibroids, gestational age at delivery), clinical examination findings, laboratory investigations, Ultrasonography findings (foetal assessment and change in fibroid size, any complications), and the outcome. Preterm birth, malpresentation, placenta previa, placental abruption, low birth weight (LBW), mode of delivery, foetal birth weight, neonatal outcome, morbidity, and mortality related to the management of pregnancy with fibroids were all noted. Data was entered into Microsoft Excel and shown for discrete variables as numbers and percentages. Descriptive statistics were used in the statistical analysis.

RESULTS

The study included 152 pregnant women who had fibroid during pregnancy. The age groups of 26 to 30 years accounted for the majority of patients (44.74%), followed by 31 to 35 years (27.63%). Most patients (43.42%) were in the gestational stages 2-3.

Table 1: Demographic variables

Demographic characters	Number of cases	Percentage
Age (in years)		
19 – 25	10	6.58%
26 - 30	68	44.74%
31 – 35	42	27.63%
36 – 40	28	18.42%
≥ 41	4	2.63%
Gravida status		
Primigravida	50	32.89%
Gravida 2-3	66	43.42%
Gravida ≥ 4	36	23.68%

We observed that the majority of patients (68.42%) had subserous fibroids. found at the fundus area (73.68%), and a USG examination revealed 2-3 fibroids (47.37%).

Table 2: Features of uterine fibroids

Features of uterine fibroids	Number of cases	Percentage
Type of fibroid		
Intramural	18	11.84%
Submucous	30	19.74%
Subserous	104	68.42%
Location of fibroid		
Cervix	4	2.63%
Fundus	112	73.68%
Tubes	2	1.32%
Pedunculated	34	22.37%
Number of fibroids		
1	46	30.26%
2–3	72	47.37%
>3	34	22.37%

In the current study, the majority of cases (89.48%) were carried to term, while 6 cases were terminated, 4 cases gave birth between 21 and 32 weeks, and 6 cases gave birth between 33 and 37 weeks. The most frequent method of delivery was a caesarean section (71.05%), which was followed by vaginal delivery (19.74%). 6 patients (3.95%) required hysterotomies, while 2 instances required suction and evacuation. A caesarean section was frequently indicated by PROM with a low Bishop score (20.37%), placenta previa (18.52%), uterine inertia (18.52%), and foetal distress (16.67%).

Table 3: Obstetric outcome

Pregnancy outcome	Number of cases	Percentage
Gestational age at termination of pregnancy		
≤ 20 wks.	6	3.95%
21-32 wks.	4	2.63%
33-37 wks.	6	3.95%
37-40wks	130	85.53%
≥ 40 wks.	6	3.95%
Mode of Delivery		
Caesarean section	108	71.05%
Normal vaginal delivery	30	19.74%
Outlet forceps	4	2.63%
Assisted Breech delivery	2	1.32%
Hysterotomy	6	3.95%
Suction and evacuation	2	1.32%
Indication for LSCS (n=54)		
PROM with poor Bishop score	22	20.37%
Placenta previa	20	18.52%
Uterine inertia	20	18.52%
Fetal distress	18	16.67%
Non progressive labor	16	14.81%
Malpresentation	12	11.11%

In addition to threatened preterm labour (15.79%), blood transfusion (14.47%), postpartum haemorrhage (9.21%), antepartum bleeding (7.89%), and threatened miscarriage (5.26%), patients in 60.53 percent of cases were asymptomatic throughout their pregnancies.

Table 4: Complication during pregnancy (n=100)

Complications	Number of cases	Percentage
Threatened preterm labour	24	15.79%
Blood transfusion	22	14.47%
Postpartum hemorrhage	14	9.21%
Antepartum bleeding	12	7.89%
Threatened miscarriage	8	5.26%
Abdominal pain needing admission	6	3.95%
Laparotomy due to pain	6	3.95%

Common problems included low APGAR Score at 5 minutes (10.53%), required resuscitation (10.53%), required NICU hospitalisation (17.11%), and low birth weight (5.26%). Abortion (3.95%), newborn stillbirth (1.32%), and neonatal mortality (1.32%) were the three foetal outcomes.

Table 5: Fetal Outcome

Fetal Outcome	Number of cases	Percentage
Abortion	6	3.95%
Low birth weight	8	5.26%
Low APGAR Score at 5 min	16	10.53%
Required resuscitation	16	10.53%
Required NICU admission	26	17.11%
Fresh still born	2	1.32%
Neonatal death	2	1.32%

DISCUSSION

The delay in childbearing, which is increasingly common currently due to many circumstances, would certainly result in a rise in the frequency of uterine fibroids in pregnancy throughout the world. Leiomyoma size and location are the two key variables that affect morbidity during pregnancy[8]. In particular, abortion, preterm labour, placental abruption, and post-partum haemorrhage are all elevated if the placenta is next to or placed over a leiomyoma. This is due to the proximity of myomas to the placental site. On the other hand, a cervix or lower uterine segment tumour may prevent labour from starting. Breech presentations in particular are thought to be common, and the size and position of the leiomyoma may be able to predict how high the risk will be[9].

It has been suggested that uterine rupture during pregnancy may be due to the lack of multilayer closure in cases of deep intramural leiomyoma or to the careless use of electrosurgical energy during myomectomy. In the study by Pullemalla SS of 40 patients with fibroid-related pregnancies aged 21 to 45, 15 patients experienced threatened miscarriage, 12 experienced preterm labour, two experienced antepartum bleeding, three required admission for abdominal pain, two underwent laparotomies due to pain, one experienced a postpartum haemorrhage, and only one required a blood transfusion[10]. There were 2 patients with spontaneous abortion, 15 with premature birth, 37 with delivery between 37 and 41 weeks, 5 with vaginal delivery, and 44 with caesarean section.

In a prospective research by Dasgupta A et al., caesarean births were performed on all 15 patients with big fibroids (>5 cm) compromising pregnancies. 87% of the women had a history of infertility, and 53% of them were above the age of 34. Premature births

were 46%. 13.33% of women needed preventive bilateral internal iliac artery ligation and myomectomy to deliver the baby but avoided caesarean hysterectomies because their largest fibroids, measuring up to 16 and 24 cm, respectively. 60% of pregnant mothers suffered birth defects. 87% required blood transfusions, and 60% suffered from postpartum haemorrhage. Cervical fibroids with a posterior location bled more than those with an anterior location[11]. Fifty percent of the women with retained uteri had puerperal pyrexia.

Afzal A et al study .'s with 85 individuals had an average age of 32.56 4.3 years, a primigravida rate of 27.05%, and a multigravida rate of 72.94%. 75.29% of pregnancies were spontaneous, while 24.70% used assisted reproductive technology. Premature birth occurred in 18.7% of cases, spontaneous abortion in 11.76%, and full-term delivery in 81.3% of cases. In 74.67% of cases, a Caesarean section was done, and in 25.33% of cases, a normal vaginal delivery was done. Preterm labour occurred in 18.7% of cases, 12.9% of cases, placenta previa caused antepartum bleeding in 5.3%, and postpartum haemorrhage occurred in 11 cases (14.67%). Contrary to sub serosal fibroids and single fibroids, intramural location and multiple fibroids were linked to an increased risk of caesarian section[12-14].

In a multicenter research by Zhao R et al., 3 012 (2.68%) of the 112,403 women evaluated had at least 1 fibroid. Uterine fibroids were found to be substantially linked with caesarean birth, breech presentation, and postpartum haemorrhage in both univariate and multivariate analyses. The kind of delivery was significantly influenced by the size and location of the uterine fibroids. The rates of PPH increased significantly (P 0.001) with the size of the uterine fibroid. Additionally, the risk of PPH is statistically affected by the location of the fibroid (intramural, submucosal, or subserosal) (5.6% [subserosal] vs. 4.7% [submucosal] vs. 8.6% [intramural]). The effects of several or big (5 cm in diameter) fibroids that were sonographically diagnosed on obstetric outcomes were investigated by Ciavattini A et al. A total of 219 women with uterine fibroids participated in the study. Those with numerous fibroids (n = 34) were found to have a considerably greater rate of preterm delivery, caesarean section, and breech presentation when compared to women without fibroids. Preterm birth and PPROM rates were increased in women (n = 48) with big fibroids[115-18]. According to their research, big fibroids are linked to a higher risk of PPROM, whereas many fibroids are linked to a significantly increased risk of premature birth and caesarean delivery. Pregnancy-related fibroids are often treated conservatively. Myomectomy while pregnant is debatable. In carefully chosen patients, surgical therapy of uterine leiomyomas during pregnancy may be accomplished successfully, improving pregnancy outcomes.

CONCLUSION

Even though the majority of pregnancies with fibroids are asymptomatic the entire time, these pregnancies nonetheless have a high risk of difficulties throughout the antepartum, intrapartum, and postpartum periods. They are also more likely to result in caesarean deliveries and PPH.

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