International Journal of Reproduction, Contraception, Obstetrics and Gynecology
Ahmed K et al. Int J Reprod Contracept Obstet Gynecol. 2023 May;12(5):1287-1291
www.ijrcog.org
pISSN 2320-1770 | eISSN 2320-1789

DOI: https://dx.doi.org/10.18203/2320-1770.ijrcog20231211

Original Research Article

Fetomaternal outcome in pregnancy with fibroid: a prospective observational study

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Received: 18 March 2023
Revised: 11 April 2023
Accepted: 12 April 2023

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ABSTRACT

Background: Uterine leiomyomas simply called as myomas, fibroids, fibroma, are benign neoplasm derived from smooth muscle cell rests of vessel wall or uterine musculature. Fibroids are rarely observed before puberty, most prevalent during reproductive age group and regress after menopause. They are oestrogen-dependent tumours, and there is evidence that leiomyomas overexpress certain estrogen and progesterone receptors when compared to normal surrounding myometrium.
Methods: The present study was a prospective observational study conducted in Government Lalla Ded Hospital GMC Srinagar over a period of 18 months from May 2021 to November 2022.
Results: Out of 100 patients, only 66 were delivered in our hospital while this study was being conducted. 38% patients had LSCS, 23% had normal vaginal delivery and 5% patients had vaginal delivery followed by curette. Pain was the most common antenatal complication found in 28% of patients, followed by 12% patients with malpresentation, 11% had abortion, 7% had APH and 5% patients had IUD. There was no preterm delivery or PPROM in our study.
Conclusions: The present study demonstrated that the incidence of fibroids was highest in between age group of 25-34 years. The commonest type of fibroid was intramural anterior wall upper segment, followed by intramural posterior wall upper segment. Guarded pregnancy outcome was seen in multiple large fibroids in pregnancy. Cesarean section rate was on higher side especially in multiple fibroids and occupying the lower segment. Decision for cesarean myomectomy should be reserved for selected cases only where the fibroid comes in the incision site or large pedunculated fibroid. Routine cesarean myomectomy should be discouraged. To improve the neonatal outcome in pregnancies with multiple fibroids, cesarean should be done by the staff trained in delivering babies in difficult scenarios.

Keywords: Fibroid, Perinatal outcome, Pregnancy

INTRODUCTION

They are slow growing tumors and takes 3-5 years to be clinically palpable unlike ovarian tumors. Estimated incidence of fibroids in women by age 50 was 70% for white women and reached over 80% for black women.[1]All fibroids develop in myometrium, some may grow more towards endometrial cavity, other's grow towards serosal surface of uterus. The exact pathophysiology behind the development of uterine fibroids is unclear. Research suggests that the starting event for fibroid development begins with a single uterine smooth muscle cell, which is then followed by deviations from the normal signaling pathways of cellular division. Fibroids are considered to be oestrogen-dependent tumors, and there is evidence showing that leiomyomas overexpress certain estrogen and progesterone receptors when compared to normal surrounding myometrium. The major risk factors include those that increase the exposure to higher levels of oestrogen (early menarche, nulliparity, obesity, diabetes, hypertension, increased BMI and late entry into

menopause) and a positive family history of uterine fibroid. (2.5 times).[2-6]

Increased parity, late menarche and smoking decrease the incidence of fibroids.[7-12] There is no definite relationship between oral contraceptives and presence of fibroids. The formation of new fibroids does not appear to be influenced by oral contraceptive use.[13-17]

The incidence of fibroids during pregnancy approximates 2%, but the cited range depends on frequency of routine sonography and population characteristics.[18-19] Uterine fibroid in pregnancy can be asymptomatic but sometimes it can adversely affect the pregnancy outcome including early pregnancy loss or miscarriage (14% in pregnancy with fibroid versus 7.6% in control group) especially when fibroids are multiple, intramural or submucosal, this is because of increased contractility, irritability, compressive effects of fibroids and compromise of blood supply to developing foetus and placenta.[20-23] Placental abnormalities like abruption increases in pregnancy. Submucosal fibroids, retroplacental fibroids, and fibroid volumes >200 cm^3 are independent risk factors for placental abruption.[24] One retrospective study reported placental abruption in 57% of women with retroplacental fibroids in contrast with 2.5% of women with fibroids located in alternate sites.[25] Risk of placenta previa (2%), adherent placenta (0.5-1%) is also on higher side.[26-28] Uterine fibroids in pregnancy does not appear to restrict foetal growth. However, large fibroids as a result of compression could lead to foetal deformations like CTEV, dolichocephaly, torticollis.[29-32]

Complication of third stage labor like post-partum haemorrhage (8.3% versus 2.9%), retained placenta (1.6% versus 0.6%), 29 uterine inversion, puerperal sepsis, anaemia are more common in pregnancy with fibroid.

METHODS

Study setting

The present study "fetomaternal outcome in pregnancy with fibroid" was a prospective observational study conducted in Government Lalla Ded Hospital GMC Srinagar over a period of 18 months from May 2021 to November 2022

Inclusion criteria

100 patients primi or multi, having fibroid >4 cm in size were included in the study.

Exclusion criteria

Uterine malformation, polyp, septum etc. Any surgery on uterus like myomectomy or any correction surgery. Any known maternal comorbidity like diabetes mellitus, chronic hypertension, CVS disorder, renal impairment etc. USG documented colour Doppler changes or level-II abnormalities. Fibroid less than 4 cm in size

Methodology

The study included 100 patients having pregnancy with fibroid who were admitted in Lalla Ded hospital at any trimester.

Patients were observed in the postoperative period to look for the complications like sub-involution of uterus, PPH, puerperal sepsis during their hospital stay.

Statistical methods

Data obtained was saved in Microsoft Excel spreadsheet and was exported in the data editor of Statistical Package for Social Sciences (SPSS Ver. 23) and was analysed using appropriate statistical tests.

RESULTS

We observed that with an average 28.9±3.18 years, the majority of patients were belonging to the age group of 25-29 years, followed by 32% belonging to the age group of (30-34) years. The minimum and maximum age recorded was 23 years and 36 years respectively.

Table 1: Antenatal complications among study patients.

Antenatal complications	Number	Percentage
Abortion	11	11
Pain abdomen	28	28
Ectopic pregnancy	4	4
IUGR	3	3
APH	7	7
Malpresentation	12	12
Vaginal myomectomy	2	2
IUD	5	5
Pre-term delivery	0	0
PPROM	0	0

Table 2: Management of study patients.

Mode of management	Number	Percentage
LSCS	38	38
Normal vaginal delivery	23	23
Vaginal delivery [IUD] followed by curette	5	5
Conservative management	34	34
Pre-term delivery	0	0
Total	66	100

With an average 28.9±3.18 years, the majority of patients were belonging to the age group of 25-29 years, followed by 32% belonging to the age group of (30-34) years. The minimum and maximum age recorded was 23 years and 36

years respectively. Majority of patients were primi, accounting for 72% as opposed to 28% with multi para status. multiple fibroids were more predominant than single fibroids (70% versus 30%). intramural anterior wall upper segment fibroid was more prevalent observed in 37% patients, followed by 22% with intramural posterior wall upper segment fibroid, 10% patients with intramural anterior wall lower uterine segment fibroid, and 7% patients had subserosal anterior wall upper segment fibroid. the most common antenatal complication found in 28% of patients, followed by 12% patients with malpresentation, 11% had abortion, 7% had APH and 5% patients had IUD as shown in Table 6. Besides there was no preterm delivery or PPROM in our study.

Out of 100 patients, only 66 were delivered in our hospital while this study was being conducted. Majority of our patients had LSCS, accounting for 38%, 23% had normal vaginal delivery and 5% patients had vaginal delivery followed by curette while as there was no preterm delivery in our study. Remaining 34 patients were managed as below:

17 patients presented purely with pain abdomen and were given medical management and discharged after a short stay in the hospital. 11 patients had abortion and pain abdomen (6 patients had curettage and 5 had medical management).

2 patients had vaginal myomectomy in view of prolapsing pedunculated fibroid.

4 patients presented with ectopic pregnancy who were discharged after conservative management.

Out of 100 patients, 66 (66%) were delivered in our hospital (30 had pain abdomen, out of these 30 patients, 8 had abortion with pain abdomen and managed conservatively) with the majority of them having LSCS with indications as follows: multiple fibroids- 23.6%, single large fibroid- 18.4%, prolonged labour- 18.4%, malpresentation- 15.8%, AFD- 7.9%, previous scar- 7.9%, maternal request- 7.9%.

Table 3: Intra-partum complications among study patients (n=100).

Intra-partum complications	Number	Percentage
PROM	0	0.0
Prolonged labour	7	7
Obstructed labour	0	0.0
Shoulder dystocia	0	0.0
Caesarean myomectomy	6	6

Intra-partum complications were evident in 13 patients, of them 7% had prolonged labour, 6% had caesarean myomectomy. Out of 66 patients, 30 patients had postpartum complications; of them, 14% needed blood transfusion, 7% had PPH, 6% had prolonged hospital duration, and 3% had sub-involution complication.

Table 4: Postpartum complications among study patients (n=100).

Postpartum complications	Number	Percentage
PPH	7	7
Retained placenta	0	0.0
Sub-involution	3	3
Need for blood transfusion	14	14
Prolonged hospital stays	6	6

The 5-minute APGAR score was ≥7 for 90.1% patients and 9.8% had an APGAR score of <7. Out of 61 study neonates; 96.4% had no structural anomaly while as 3.6% neonates had structural anomaly. Out of 61 neonates, only 7 patients needed NICU admission thus placing the NICU admission rate of 11.4%, however, 88.6% neonates had no NICU admission.

Table 5: Apgar score at 1 minute of study neonates.

Apgar score	Number	Percentage
<7	13	21.4
≥7	48	78.6
Total	61	100

DISCUSSION

Fibroid affects women of reproductive age and is the most common benign, monoclonal smooth muscle tumour of the uterus. Fibroids are a significant health concern due to their astounding prevalence. It has been shown that women with tiny fibroids might have uneventful pregnancies. Fibroid-related variables like number, shape, size, and location have an impact on pregnancy outcomes.

In the present study on the feto-maternal outcome of patients with fibroids, the following results were obtained:

We observed that with an average age 28.9±3.18 years, the majority of patients were belonging to the age group of 25-29 years. Majority of our patients were primis, accounting for 72% as opposed to 28% with multi para status which is similar to the study of Singh et al but contrary to the studies of Posh et al, Noor et al, and Sarwar et al.[33-36] Multiple fibroids were more predominant than single fibroids (70% versus 30%). Intramural anterior wall upper segment fibroids were more prevalent, followed by intramural posterior wall upper segment fibroid. According to Saha et al, 16% of their patients had sub-serous location, while 74% of their patients had intramural, which is consistent with our study.[34] Mean size of largest fibroid was 5.8±1.29 cm and majority of patients 57% had >5 cm fibroid size as opposed to 43% patients with fibroid size of 4-5 cm.

Pain was the most common antenatal complication, followed by patients with mal-presentation, abortion, and APH.

In a study by Posh et al, 42.9% had asymptomatic maternal complication followed by 24.4% patients having mal-presentation, 7.1% had miscarriage, abruption in 7.1% and PPH in 10.7% while as Pandit et al, in their study reported abdominal pain in 66.66%, followed by postpartum hemorrhage (10%), placenta abruption (3.3%), and IUGR (16%), which is compatible with our study.[35]

Majority of neonates had a good APGAR score and NICU admission rate was low, accounting for 11.4%. In a study by Posh et al, the NICU admission rate was reported as 7.7%, while as Noor et al, reported that 13.33% of neonates were admitted to intensive care unit, which is compatible with our study.[36]

CONCLUSION

The present study demonstrated that the incidence of fibroids was highest in between age group of 25-34 years. The commonest type of fibroid was intramural anterior wall upper segment, followed by intramural posterior wall upper segment. Patients who were pregnant and had fibroids experienced a high incidence of problems during the antepartum, intra-partum, and postpartum periods.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

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Cite this article as: Ahmed K, Uzma S, Gulzar R, Wani B. Fetomaternal outcome in pregnancy with fibroid: a prospective observational study. Int J Reprod Contracept Obstet Gynecol 2023;12:1287-91.