



Original Research Article

Maternal and fetal outcomes in pregnancy complicated by fibroid uterus

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ABSTRACT

Introduction: Fibroids are most common benign tumours of female reproductive tract. Fibroid in pregnancy is associated with complications like preterm labor, malpresentations, etc.

Aims and Objectives: The aim of this study is to the incidence, clinical presentation, maternal and fetal outcomes among pregnant women with Leiomyoma and its management.

Materials and Methods: This is a prospective observational study in Department of OBG, Adichunchanagiri hospital, from Jan 2017 to July 2019. Parameters such as age, parity, size and type of fibroid, mode of delivery and perinatal outcomes were analysed using Epi info software.

Results: Out of 5043 deliveries conducted, 30 cases were detected with fibroid during pregnancy, incidence being 0.5%. Majority belonged to age group 25-29 years (50%), 18 (60%) were Primigravida, 26(86.66%) underwent LSCS, 4(13.33%) underwent preterm vaginal delivery, 16.66% had malpresentation, 2(15%) underwent myomectomy, and 6(20%) had PROM, 5(16.6%) were infertility treated, 20(66.66%) had pain abdomen, 3(10%) had PPH, and Abruptio in 3.3%, IUGR in 16%, LBW in 26.66% of deliveries.

Conclusion: Pregnancy with fibroid is considered as high risk. Timely diagnosis and management of antepartum, intrapartum, postpartum complications with good neonatal care leads to successful outcome. Caesarean myomectomy in selected cases can prove beneficial.

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1. Introduction

Leiomyomas are the most common tumours of the uterus and the female pelvis, mainly benign, composed of smooth muscle cells and are well circumscribed but not encapsulated affecting nearly 40-60% people. Prevalence of fibroids in pregnancy varies between 1.2-10.7%. Most leiomyomas are asymptomatic during pregnancy and are usually diagnosed on routine ultrasound examination, however they can be missed on ultrasonography due to physiological thickening of myometrium. Most of the women detected with fibroid have uneventful pregnancies, however 10-28% of them may present with certain complications, abdominal pain being most common clinical complaint. The risk of fibroids in pregnancy are usually evaluated based upon the trimester of assessment, on

their total number, site, size, type of fibroid. The complications such as pain secondary to haemorrhagic infarction, nausea, vomiting, pyrexia is observed at 20-22 weeks and are associated with large fibroids. If fibroids are large submucosal or intramural, they can be a cause of miscarriage. Women with fibroids may also present with subfertility with associated decreased pregnancy rate (0.849%) and implantation failure (0.821%) rates. This is more prominently seen in cases with submucosal fibroids, with their relative risks for IR (0.2%), CPR (0.3%), MR (1.6%). One of the most significant complication is abdominal pain secondary to fibroid red degeneration, pedunculated fibroids leading to torsion or impaction. In such cases along with analgesia, myomectomy may be required; though it was contraindicated earlier during pregnancy, several case series reported it to be significant for intractable and recurrent pain. This is however advised in fibroids located in lower segments (cervical) or large

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fibroids of >5cms, fibroid polyp leading to abnormal lie, followed by caesarean section at or around 38 weeks. Bleeding secondary to APH and PPH is not uncommon in such cases. Other complications include preterm labour, preterm birth, dysfunctional and obstructed labour, foetopelvic disproportion. Most common malpresentation associated in such pregnancies is breech presentation. These complications are more common in submucosal and retroplacental fibroids. A trend of increase in size of the uterine fibroid is noted during pregnancy (25%), especially with large fibroids. Mean increase of fibroid volume during pregnancy is 12%, may also increase by 25%. Patient may have complaints of urgency and increased frequency and associated urinary tract infections. Neonatal complications observed in pregnancy outcomes complicated by leiomyomas include low birth weight probably secondary to foetal growth restriction with no perinatal morbidity, mortality and congenital anomalies.

2. Aim and Objective

The paramount aim of this study is to determine the incidence, clinical presentation, maternal and foetal outcomes among pregnant women with Leiomyoma and its management. Furthermore, the associated complications and the necessity to modify the course of obstetric care for improved caregiving is the secondary aim.

3. Materials and Methods

This prospective observational study was carried out during January 2017 to July 2019 at the Department of Obstetrics and Gynaecology of Sri Adichunchanagiri Institute of Health Sciences and Research Centre, B.G. Nagara, Mandya. Out of 5043 women who underwent deliveries, 30 patients with fibroid detected during the course of pregnancy were included in the study. These women mainly belonged to age group ranging from 20-39 years. All patients with fibroid >2cms were considered. Patients having fibroids before pregnancy and later conceived, those patients having fibroids diagnosed during pregnancy and diagnosed during the time of delivery were included in the study. All 30 patients were counselled for the underlying cause and associated risk factors were well explained and a written consent was taken for the same. Patients were thoroughly investigated and followed up clinically and ultrasonically till delivery outcome was recorded. Data was collected using a questionnaire regarding 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, caesarean myomectomy if done was studied. Ultrasonogram was done at successive ANC visits to evaluate the change in the size of the fibroid and any associated complications either in fibroid or in

pregnancy in general were evaluated. The foetal outcome was studied using birth weight, term or preterm, and associated complications and NICU admissions. The data was collected, coded, double entered in Microsoft Excel for basic percentage and proportion expression. Further, the data was imported to EPI INFO TM 3.5.1 software (SPSS Version 24) for relevant statistical analysis.

4. Result

Out of the 5043 deliveries conducted between the study period, 30 cases were detected with fibroid uterus with pregnancy. The incidence of pregnancy with fibroid uterus in our institute is 0.5%. Majority of the patients belonged to age group 25-29 years (50%). Out of the 30 patients, 60% (18) were primigravida and 40% (12) multigravida. Patients who were detected with fibroid on ultrasonography before and during the course of pregnancy comprised of 70% (n=21) of the total, of which 17(80%) underwent LSCS and 4(19.04%) underwent vaginal delivery. A total of 9 patients (30%) were undetected of prevailing fibroids antenatally, were undertaken for Caesarean delivery. Those who underwent vaginal route delivery, 1 patient (25%) was a early preterm (>32 and <34 weeks) and 3(75%) patients were Late preterm (<37 and >34 week). Patients who underwent LSCS ranged between 37-41weeks period of gestation (96.15%), one patient delivered via caesarean delivered before 37 weeks which means nearly 86.66% (26) were undertaken for Caesarean route of delivery and only 13.33% (4) delivered vaginally. Majority 12(57.14%) fibroids were detected in 2nd trimester during the course of pregnancy while 9 (42.85%) were detected in 1st trimester. Breech presentation accounted for 16.66% of the deliveries, rest being cephalic. Patients presented mainly in the third trimester at the mean gestation age of 32-34 weeks (70%) (n=21) of which the most common complication they presented with is pain abdomen (66.6%), followed by preterm labour pain in 23.8% (n=5), while 2 patients presented with UTI (9.52%). But however, in second trimester the prevalence of UTI was more in between the mean gestation age of 22-24 weeks (n=11, 36.66%) accounting for 45.45%(n=5), while pain remained a common complaint (54.54%). The overall prevalence of complaint of Pain was 66.66%, but however UTI was noted in 23% cases which was more commonly associated with anterior wall fibroids of >5cm size. One patient had history of recurrent UTI. Three cases had multiple fibroids (10%), while 27(90%) were single solitary fibroids, out of which 13(43.33%) were intramural, 7(23.33%) were submucosal and 11(36.66%) were subserosal. The most common site of fibroid observed in this study is anterior wall fibroid along with fundal fibroids accounting 33.33% (n=10), while posterior wall being 16.66% (n=5) and lateral wall being 13.33% (n=4). A pedunculated large (>5cm) subserosal fundal fibroid (3.33%, n=1) noted in one of our

patients, was associated with PROM and IUGR. PROM was observed in (n=6) patients, while IUGR was noted in 16% (n=5). Postpartum Haemorrhage was observed in 3 cases (10%), while Abruption was noted in one patient (3.33%), which comprised associated bleeding and spotting per vagina as complaints in first and third trimesters jointly (3.33%). Five (16.6%) patients were on treatment for associated infertility, out of which one patient underwent Diagnostic Hysterolaparoscopy due to secondary infertility, with concomitant Myomectomy. One patient was on Ovulation induction treatment for 2 years, and conceived after IUI, where fibroid was undetected antenatally, and myomectomy was done intraoperatively. One patient had large multiple fibroid of >5cms(10x12) nearly 24-26weeks, associated with IUGR (growth of 33weeks-lag of 4weeks) and doppler changes, associated with pain, bleeding. Patient was undertaken for Caesarean delivery for the same. Caesarean Myomectomy was undertaken in 10% patients in our study i.e., 3 cases, one case had cystic degeneration, the other two cases presented with subinfertility. 60% fibroids were undiagnosed on ultrasonography and 40% were detected as they were large >5cm of which 60% were submucosal type while rest 20% were intramural and subserosal type respectively.

Table 1:

Age Distribution	No of Patients	Percentage
20 – 24 years	9	30%
25 – 29 years	15	50%
30 – 34 years	4	13.3%
35 – 39 years	2	6.6%

Table 2:

Complications	No of Patients	Percentage
Pain Abdomen	20	66.6%
Fetopelvic Disproportion	15	50%
UTI	7	23.3%
PROM	6	20%
Threatened Preterm	5	16.6%
Associated Infertility	5	16.6%
Malpresentation	5	16.6%
IUGR	5	16%
Preterm Labor	4	13.3%
PPH	3	10%
Abruption	1	3.3%

Table 3:

	No of Patients	Percentage
Primigravida	18	60%
Multigravida	12	40%

Table 4:

Type	No.	Percentage
Intramural	13	43%
Submucosal	7	23%
Subserosal	11	36%
Pedunculated	1	3.3%

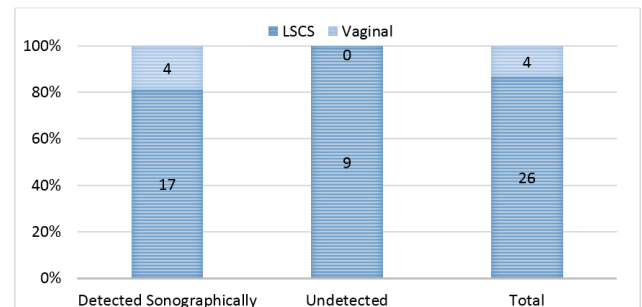


Fig. 1:

Overall in our study large fibroids (>5cm) accounted for 40% (n=12) of the total fibroids in the 30 cases taken, while rest 60% comprised of small size fibroids (>2cms-<5cms) which coexisted with multiple or solitary. Throughout the successive scans studied and observed, an increase in the fibroid size was noted. Foetopelvic disproportion was noted in 50% cases. In nearly 26.6% cases which underwent LSCS incision was extended or widened secondary to bleeding, position of the fibroid obstructing the extraction of the baby or difficulty during the incision site closure. Low Birth weight was noted in 8 babies (26.66%).

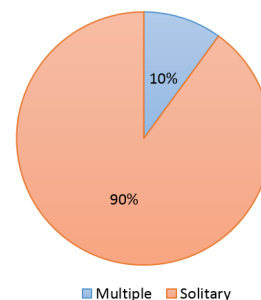


Fig. 2:

5. Discussion

This study was conducted to evaluate the outcome of pregnancies complicated by leiomyomas. Different complications with variable rates of incidence have been reported in pregnancy with fibroids which include antepartum haemorrhage, acute abdomen, laparotomy, preterm labour, foetopelvic disproportion, malposition of the foetus, retention of the placenta, PPH, red degeneration,



Fig. 3:



Fig. 4:

dysfunctional labour, retained placenta, and retained products of conception, IUGR. These complications are more commonly seen with large submucosal and retroplacental fibroids. As the presence of leiomyomas increases the risks of adverse pregnancy outcome, thus emphasizing the importance of appropriate management of this high-risk pregnancy.

The incidence of Leiomyomas complicating Pregnancy in our study was 0.5%. It is similar to incidence reported in the study conducted by Shahida et al and was significantly more than that reported in the study conducted by Poovathi M et al. Incidence of fibroid increases with maternal age who are older than 35 years of age and in nullipara. In our study, mean maternal age group was between 25-29 years, compared to Lam J et al, however it was similar to studies conducted by Sarwar et al and Poovathi et al proving its incidence in second and third decade of life. In our study we found occurrence of fibroids to have increased in Primigravidae (60%), which is inconsistent with previous studies. Only 10% patients in our study had multiple fibroids which contradicts the outcomes in previous studies. No patient in our study suffered any miscarriage during our study period. Previous history of abortion

was noted in 3 patients who had associated comorbidities such as GDM, Gestational Hypertension, associated with large fibroid of >5cm, with the commonest associated fibroid site at posterior uterine wall as stated by Dever et al, posterior myomas had significantly higher miscarriage rates. In our study, anterior wall was the most common site which correlates with findings by Dever et al. Occurrence of fundal fibroids was also common and at par with the latter. Pregnancy associated complications, mainly included Pain which was most common (66.6%), which was increased several folds compared to other reports. Though 5 (16.66%) patients had a history of threatened preterm labour during pregnancy, 4 underwent preterm delivery. Myoma may distort the shape of uterine cavity which may account for higher rates of preterm birth and malpresentations. As pregnancy advances myometrium having fibroids are overstretched and this mechanism can initiate labour and thus result in increased rate of preterm births. The incidence of preterm delivery was 13.3% in our study compared to study by Sarwar et al. (33.3%), Poovathi et al (13.3%) nearly significant. PROM noted in 20% patients, which was slightly on a higher side with respect to findings recorded by Sarwar et al and Poovathi et al.

Pregnant women with fibroid are at increased risk of placenta previa and malpresentation. Our study also shows 16.66% patients with malpresentation where caesarean section was done. Increase risk of malpresentation due to fibroid in our study is same as shown in earlier studies. Five (16.6%) patients were on treatment for associated infertility, which shows a significant correlation with findings noted by Parazinim et al, Klatsky et al and Sarwar et al.

Prevalence of Urinary tract infections and associated urgency and increased frequency was noted in 23% cases which was significantly higher than previous reports in our study.

An increased risk of caesarean section in our study compares well with previously conducted studies showing caesarean section rate of 39% in patients with fibroid compared to 17% for general population. In our study the Caesarean rate was 86% compared to studies by Poovathi et al (59.2%), Sarwar et al (36.36%).

In our study, 3 patients (10%) had postpartum haemorrhage. The risk of PPH in pregnancies complicated by fibroids has been reported as 18.5% in previous studies as recorded by Poovathi et al, Sarwar et al (14%), Lam S J et al and Kumar et al (14%).

In our study 3 patients underwent Myomectomy, of which 2 had associated infertility and one patient had cystic degeneration.

As far as neonatal outcome is concerned, 8 (26.66%) patients delivered Low Birth Weight babies (<2.5kgs) while rest babies were healthy and were given to mother immediately after birth. No intrauterine death or an early neonatal death was recorded. Three babies passed meconium and had foetal distress which led to neonatal morbidity and admission to neonatal intensive care unit but eventually recovered well with no associated mortality or morbidity.

6. Conclusion

Pregnancy with Fibroids is considered High-Risk. Timely diagnosis and tertiary care referral and Management of Antepartum, Intrapartum, Postpartum complications with good neonatal care leads to successful outcome. Caesarean Myomectomy in selected cases can prove beneficial.

7. Abbreviations

NICU (Neonatal Intensive Care Unit), IUGR (intrauterine growth restriction), GDM (Gestational Diabetes Mellitus), PPH(Postpartum Haemorrhage), PROM(Premature Rupture of Membranes), IR(Implantation Rate), IUI(Intrauterine Insemination), LSCS(Lower Segment Caesarean Section), UTI(Urinary tract infection), CPD(Cephalo-Pelvic Dispro-

portion), APH(Antepartum haemorrhage), MR(Miscarriage Rate), CPR(Clinical Pregnancy Rate).

8. Source of funding

None.

9. Conflict of interest

None.

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