Original Research Article

Study of obstetric outcomes of pregnancy with uterine fibroids at a tertiary care hospital

Jaideep M Palwade[1], Charushila S Borole[2*]

[1]Associate Professor, Department of OBGY, Vedantaa Institute of Medical Sciences, Palghar, Maharashtra, INDIA.
[2]Assistant Professor, Department of OBGY, Ulhas Patil Medical College & Hospital, Bhusawal Road, Jalgaon, Maharashtra, INDIA.
Email: palwadejaideep@gmail.com

Abstract

Background: Uterine fibroids are the commonest benign tumours of the female reproductive tract, much lower incidence in pregnancy could be explained by the fact that uterine fibroid is associated with infertility as well as low implantation rates after in vitro fertilization. Aim of this study was to study obstetrics outcomes of pregnancy with uterine fibroids and its associated complications at a tertiary hospital. **Material and Methods:** Present study was hospital based, retrospective study, conducted in cases diagnosed as pregnancy with fibroid. **Results:** 76 pregnant women with fibroid during pregnancy were studied. Majority of patients were from 26 -30 years age group (44.74 %) followed by 31-35 years age group (27.63 %). Majority of patients were gravida 2-3 (43.42 %). We noted that majority of patients had subserous fibroids (68.42 %). located at fundus region (73.68 %), had 2-3 fibroids on USG examination (47.37 %). In present study, majority of cases were reached up to term (89.48 %), 3 cases aborted (3.95 %), 2 cases delivered between 21-32 weeks (2.63 %) while 3 cases delivered between 33-37 weeks (3.95 %). Caesarean section (71.05 %) was most common Mode of Delivery followed by vaginal delivery (19.74 %). 60.53 % patients were asymptomatic throughout pregnancy, other common complications noted were threatened preterm labour (15.79 %), blood transfusion (14.47 %), postpartum hemorrhage (9.21 %), antepartum bleeding (7.89 %), threatened miscarriage (5.26 %). Low APGAR Score at 5 min (10.53 %), Required resuscitation (10.53 %), Required NICU admission (17.11 %), Low birth weight (5.26 %) were common complications noted. Fetal outcome was abortion (3.95 %), fresh stillborn (1.32 %) and neonatal death (1.32 %). **Conclusion:** Pregnancies with fibroids are high risk pregnancies, associated with complications during antepartum, intrapartum, and postpartum period, also associated with increased incidence of cesarean delivery and PPH.

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

[*]**Address for Correspondence:**
Dr Jaideep M Palwade, Associate Professor, Department of OBGY, Vedantaa Institute of Medical Sciences, Palghar, Maharashtra, INDIA.
Email: palwadejaideep@gmail.com

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INTRODUCTION

Uterine fibroids are the commonest benign tumours of the female reproductive tract which arise from the smooth muscle cells of the uterus. It occurs in 20–40% of women, whereas the estimated incidence in pregnancy is 0.1–3.9%.[1,2] The much lower incidence in pregnancy could be explained by the fact that uterine fibroid is associated with infertility as well as low implantation rates after in vitro fertilization.[3] Only 42% of large fibroids (> 5 cm) and 12.5% of smaller fibroids (3–5 cm) can be diagnosed on physical examination.[4] The ability of ultrasound to detect fibroids in pregnancy is even more limited (1.4 -2.7%) primarily due to the difficulty of differentiating fibroids from physiologic thickening of the myometrium.[5] Different complications with variable rates of incidence have been reported in pregnancy with fibroids which include ante-partum haemorrhage, acute abdomen, laparotomy, preterm labour, foeto-pelvic disproportion, malposition of the foetus, retention of the placenta, postpartum haemorrhage, red degeneration, dysfunctional labour, retained placenta, and retained products of conception, intra uterine growth restriction (IUGR).[6,7] Moreover, the most common complications of fibroids during pregnancy are pain due to degeneration or torsion

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of the pedunculated fibroid, as well as pelvic pressure-related problems and vaginal bleeding. Aim of this study was to study obstetrics outcomes of pregnancy with uterine fibroids and its associated complications at a tertiary hospital.

MATERIAL AND METHODS

Present study was hospital based, retrospective study, conducted in Department of OBGY, Vedantaa Institute of Medical Sciences, Palghar, India. Cases diagnosed as pregnancy with fibroid during January 2018 to December 2020 were considered for present study. Study approval was taken from institutional ethical committee. Pregnant women with USG documented uterine fibroid diagnosed prenatally or antenatally were considered in the study. Pregnant women with history of previous caesarean section, any surgery, uterine malformation or chronic diseases like diabetes, hypertension were not considered for present study. Demographic details, complete antenatal /intrapartum /postpartum history (maternal age, gravidity, parity, number and size of fibroids, gestational age at delivery), clinical examination findings, laboratory investigations, Ultrasonography findings (fetal assessment and change in fibroid size or any complication) and outcome was recorded in case record proforma. during antenatal period. Various obstetric complications (like preterm birth, malpresentation, prom, placenta previa, placental abruption and LBW), mode of delivery, birth weight of fetus and neonatal outcome, morbidity and mortality associated with the management of pregnancy with fibroids was recorded. Data was entered in Microsoft excel and presented as number and percentages for discrete variables. Statistical analysis was done using descriptive statistics.

RESULTS

76 pregnant women with fibroid during pregnancy were studied. Majority of patients were from 26 -30 years age group (44.74 %) followed by 31-35 years age group (27.63 %). Majority of patients were gravida 2-3 (43.42 %).

Table 1: Demographic variables

Demographic characters	Number of cases	Percentage
Age (in years)		
19 – 25	5	6.58%
26 - 30	34	44.74%
31 – 35	21	27.63%
36 – 40	14	18.42%
≥ 41	2	2.63%
Gravida status		
Primigravida	25	32.89%
Gravida 2-3	33	43.42%
Gravida ≥ 4	18	23.68%

We noted that majority of patients had subserous fibroids (68.42 %). located at fundus region (73.68 %), had 2-3 fibroids on USG examination (47.37 %).

Table 2: Features of uterine fibroids

Features of uterine fibroids	Number of cases	Percentage
Type of fibroid		
Intramural	9	11.84%
Submucous	15	19.74%
Subserous	52	68.42%
Location of fibroid		
Cervix	2	2.63%
Fundus	56	73.68%
Tubes	1	1.32%
Pedunculated	17	22.37%
Number of fibroids		
1	23	30.26%
2–3	36	47.37%
>3	17	22.37%

In present study, majority of cases were reached up to term (89.48 %), 3 cases aborted (3.95 %), 2 cases delivered between 21-32 weeks (2.63 %) while 3 cases delivered between 33-37 weeks (3.95 %). Caesarean section (71.05 %) was most common Mode of Delivery followed by vaginal delivery (19.74 %). Hysterotomy was required in 3 cases (3.95%) while 1

case underwent suction and evacuation. PROM with poor Bishop score (20.37%), Placenta previa (18.52%), Uterine inertia (18.52%) and Fetal distress (16.67%) were common indications for caesarean section.

Table 3: Obstetric outcome

Pregnancy outcome	Number of cases	Percentage
Gestational age at termination of pregnancy		
≤ 20 wks.	3	3.95%
21-32 wks.	2	2.63%
33-37 wks.	3	3.95%
37-40wks	65	85.53%
≥ 40 wks.	3	3.95%
Mode of Delivery		
Caesarean section	54	71.05%
Normal vaginal delivery	15	19.74%
Outlet forceps	2	2.63%
Assisted Breech delivery	1	1.32%
Hysterotomy	3	3.95%
Suction and evacuation	1	1.32%
Indication for LSCS (n=54)		
PROM with poor Bishop score	11	20.37%
Placenta previa	10	18.52%
Uterine inertia	10	18.52%
Fetal distress	9	16.67%
Non progressive labor	8	14.81%
Malpresentation	6	11.11%

60.53 % patients were asymptomatic throughout pregnancy, other common complications noted were threatened preterm labour (15.79 %), blood transfusion (14.47 %), postpartum hemorrhage (9.21 %), antepartum bleeding (7.89 %), threatened miscarriage (5.26 %).

Table 4: Complication during pregnancy (n=50

Complications	Number of cases	Percentage
Threatened preterm labour	12	15.79%
Blood transfusion	11	14.47%
Postpartum hemorrhage	7	9.21%
Antepartum bleeding	6	7.89%
Threatened miscarriage	4	5.26%
Abdominal pain needing admission	3	3.95%
Laparotomy due to pain	3	3.95%

Low APGAR Score at 5 min (10.53 %), Required resuscitation (10.53 %), Required NICU admission (17.11 %), Low birth weight (5.26 %) were common complications noted. Fetal outcome was abortion (3.95 %), fresh stillborn (1.32 %) and neonatal death (1.32 %).

Table 5: Fetal Outcome

Fetal Outcome	Number of cases	Percentage
Abortion	3	3.95%
Low birth weight	4	5.26%
Low APGAR Score at 5 min	8	10.53%
Required resuscitation	8	10.53%
Required NICU admission	13	17.11%
Fresh still born	1	1.32%
Neonatal death	1	1.32%

DISCUSSION

The incidence of uterine fibroids in pregnancy would likely increase globally due to delay in childbearing which is more prevalent now due to different factors. The two most important factors which determines morbidity in pregnancy are leiomyoma size and its location.[10] The proximity of myomas to the placental site is also a factor, especially abortion, preterm labor, placental abruption and post-partum hemorrhage; all are increased if the placenta is adjacent to or implanted over a leiomyoma. On the other hand, tumor in the cervix or lower uterine segment may

obstruct labor. Malpresentations, especially breech presentations are reported to be high and the size and location of leiomyoma might predict the magnitude of the risk.[11,12] The absence of multilayer closure in cases of deep intramural leiomyoma or to the injudicious use of electrosurgical energy during myomectomy has been reported to be a possible cause of uterine rupture during pregnancy.[13,14] Pullemalla SS[15] studied 40 patients of 21 to 45 years with pregnancy with fibroid, 15 patients had threatened miscarriage, 12 had preterm labor, 2 had antepartum bleeding, 3 had abdominal pain needing admission, 2 had laparotomy due to pain, 1 had a postpartum hemorrhage and only one patient needed a blood transfusion. Spontaneous abortion was observed in 2 patients, premature delivery in 15, delivery at 37-41 weeks in 37, vaginal delivery in 5 patients and cesarean section in 44 patients. In a prospective study by Dasgupta A *et al.*,[16] 15 patients with large fibroids (>5cm) complicating pregnancies, all underwent caesarean deliveries. 53% women were at 34 yrs of age, 87% women had a history of infertility. 46 % delivered prematurely. 13.33 % with the largest fibroids measuring up to 16 and 24 cm respectively needed prophylactic bilateral internal iliac artery ligation and myomectomy to deliver the baby but avoided caesarean hysterectomies. 60% women had fetal malpresentations. 60% had postpartum hemorrhage and 87 % needed blood transfusions. Posteriorly located cervical fibroids bled more than anterior cervical fibroids. Puerperal pyrexia was noted in 50% of the women with retained uterus. In study by Afzal A *et al.*, with 85 patients, mean age of patients was 32.56 ± 4.3 years, primigravida was 27.05%, multigravida was 72.94%. Spontaneous conception was seen in 75.29 % and 24.70% used assisted reproductive treatment for conception. Spontaneous abortion was seen in 11.76%, premature delivery in 18.7%, and full term delivery in 81.3% Caesarean section was performed in 74.67 %of cases and normal vaginal delivery in 25.33 %. 12.9% had threatened miscarriage, 18.7 % had preterm labour, 5.3 % had antepartum bleeding due to placenta previa, 11(14.67%) had postpartum haemorrhage. Intramural location and multiple fibroids were associated with increased risk of caesarian section as compared to sub serosal fibroids and single fibroids. In a multicenter study by Zhao R *et al.*[18], 112,403 women were studied, 3,012 (2.68%) women were identified with at least 1 fibroid. By univariate and multivariate analyses, the presence of uterine fibroids was significantly associated with cesarean delivery, breech presentation and postpartum hemorrhage. The size of uterine fibroids and location in uterus had important effect on the mode of delivery. The rates of PPH were significantly higher with increasing size of the uterine fibroid (P<0.001). And the location of fibroid (intramural, submucosal or subserosal) also have a statistically significant impact on the risk of PPH (5.6% [subserosal] vs 4.7% [submucosal] vs 8.6% [intramural]). Ciavattini A *et al.*,[5] studied the impact of sonographically identified multiple or large (5 cm in diameter) fibroids on obstetric outcomes. The study was performed on 219 women with uterine fibroids. It was reported that compared to women with no fibroids, women with multiple fibroids (n = 34) had a significantly higher rate of preterm birth, cesarean section and breech presentation. Women with large fibroids (n = 48) had a higher rate of preterm birth and PPROM. Their study indicates that multiple rather than large fibroids are associated with a significantly increased risk of preterm birth and cesarean delivery while large fibroids are associated with a higher risk of PPROM. The treatment of fibroids in pregnancy is usually conservative. Myomectomy during pregnancy is controversial. The surgical management of uterine leiomyoma during pregnancy may be performed successfully in carefully selected patients, which seems to imp [rove pregnancy outcome.

CONCLUSION

Although most fibroids remain asymptomatic throughout the course of pregnancy, still pregnancies with fibroids are high risk pregnancies, associated with complications during antepartum, intrapartum, and postpartum period, also associated with increased incidence of cesarean delivery and PPH.

REFERENCES

1. S. G. Vitale, A. Tropea, D. Rossetti, M. Carnelli, and A. Cianci, "Management of uterine leiomyomas in pregnancy: review of literature," Updates in Surgery, vol. 65, no. 3, pp. 179–182, 2013.
2. R. G. Steward, H. W. DenHartog, and A. R. Katz, "Giant uterine leiomyomata," Fertility and Sterility, vol. 95, no. 3, pp. 1121.e15–1121.e17, 2011.
3. S. K. Sunkara, M. Khairy, T. El-Toukhy, Y. Khalaf, and A. Coomarasamy, "The effect of intramural fibroids without uterine cavity involvement on the outcome of IVF treatment: a systematic review and meta-analysis," Human Reproduction, vol. 25, no. 2, pp. 418–429, 2010.
4. Ezzedine DNE. Are Women With Uterine Fibroids at Increased Risk for Adverse Pregnancy Outcome? Clin Obstet Gynecol. 2016;59(1):119–146.
5. Ciavattini A, Clemente N, Carpini GD, Giuseppe JD, Giannubilo SR, Tranquilli AL. Number and size of uterine fibroids and obstetric outcomes. J Matern-Fetal Neo M. 2015;28:484-488.
6. Klatsky PC, Tran ND, Caughey AB, Fujimoto VY. Fibroids and reproductive outcomes: a systematic literature review from conception to delivery. American journal of obstetrics and gynecology. 2008;198(4):357-66.
7. Gupta S, Manyonda IT. Acute complications of fibroids. Best practice and research Clinical obstetrics and gynaecology. 2009;23(5):609-17.

8. Ezzedine D, Norwitz ER. Are women with uterine fibroids at increased risk for adverse pregnancy outcome? Clin Obstet Gynecol. 2016;59(01):119–127.
9. Yalınkaya A, Kangal K, Güzel AI, Erdem S. Successful myomectomy of a giant myoma during pregnancy. Gynecol Obstet Reprod Med. 2010;16:194–195
10. Shavell VI, Thakur M, Sawant A, et al.: Adverse obstetric outcomes associated with sonographically identified large uterine fibroids. Fertil Steril 97(1):107, 2012.
11. Devis JL, Ray Mazumder S, Hobel CJ, Baley K, Saspo D. Uterine leiomyoma in pregnancy: a prospective study . Obstet Gynecol 1990; 75:41-4.
12. Gloria D, Coronado MS, Lynn M, Marshall SC et al.: Complications in pregnancy, labor and delivery with uterine leiomyomas; Obstet Gynecol:95(5),764- 69, 2000.
13. Donnez J, Dolman MM et al. Uterine fibroid management: from the present to the future. Human Reproduction Update.2016; 22(6): 665–686.
14. Vilos GA, Allaire C, Laberge PY et al. The management of uterine leiomyomas. SOGC Clinical Practice Guideline. J Obstet Gynaecol Can 2015; 37(2):157–178.
15. Pullemalla SS, Bhargavi B. Outcome of Pregnancies with Fibroids and its Associated Complications: A Prospective Study. Asian J. Med. Res. 2020;9(4):1-4.
16. Dasgupta A, Santra D, Talukdar A, et al. Obstetric outcomes with large fibroids in pregnancies nearing term: a study in a tertiary care centre in rural india. Obstet Gynecol Int J. 2017;7(2):240–244.
17. Afzal A, Ashraf S, Nigeen W. Obstetrics outcomes of pregnancy with uterine fibroids in tertiary care hospital. The New Indian Journal of OBGYN. 2021; 7(2): 153-56.
18. Zhao R, Wang Xou L, Li G, Chen Y, Li C, et al. (2017) Adverse obstetric outcomes in pregnant women with uterine fibroids in China: A multicenter survey involving 112,403 deliveries. PLoS ONE 12(11): e0187821.

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