e-ISSN: 0976-822X, p-ISSN:2961-6042

Available online on http://www.ijcpr.com/

International Journal of Current Pharmaceutical Review and Research 2024; 16(5); 327-331

Original Research Article

Assessment Uterine Fibroids and Their of Obstetrics Outcomes

Manisha Bharti[1], Sunesh Kumar[2]

[1]Senior Resident, Department of Obstetrics and Gynecology, AIIMS, New Delhi, India

[2]Professor and HOD, Department of Obstetrics and Gynecology, AIIMS, New Delhi, India

Received: 07-03-2024 / Revised: 12-04-2024 / Accepted: 23-05-2024

Corresponding Author: Dr. Manisha Bharti

Conflict of interest: Nil

Abstract

Aim: The aim of the present study was to assess the obstetrics outcomes of uterine fibroids and their consequences in a tertiary hospital.

Methods: The present study was a retrospective study was undertaken in the Department of Obstetrics and Gynecology, AIIMS, New Delhi, India. The study was conducted for one year. 200 pregnant women who had USG findings of fibroid were enrolled in this study.

Results: Most patients (42%) were in the 26-30 age range, followed by 31-35 (32%). The mean age was 31 years with a standard deviation of 5.85. 9% were under 25 and 3% were over 40. 42% of patients were primigravida, 38% were second or third, and 20% were fourth. Submucous fibroids were found in 18% of individuals and subserous fibroids in 73%. Most patients had fundus fibroid (74%), and 13% had pedunculated. Two to three fibroids were found in 47%. This research found 80% term deliveries. Caesarean section (62%), vaginal birth (25%), and instrumental and aided breech delivery were the most prevalent. Significant pregnancy problems included imminent preterm labour (22%), abortion (17%), PPH (10%), and blood transfusion (21%).

Conclusion: Uterine fibroid pregnancy is often asymptomatic and accidental. Early pregnancy abortion, term pregnancy PROM, and postpartum PPH are linked to fibroids. Also, malpresentation is more likely. Pregnant uterine fibroid patients have significant caesarean section rates. So, uterine fibroids render a normal pregnancy high-risk.

Keywords: neonatal outcome, postpartum hemorrhage, maternal complications, pregnancy complications, uterine fibroids

Introduction

Fibroids are noncancerous growths originating from the smooth muscle cells of the uterus. They represent the most common benign tumors observed in women during their reproductive years. While the majority of women with uterine fibroids experience normal pregnancies, literature data indicate an increased risk of spontaneous miscarriage, placental abruption, premature rupture of membranes, fetal malpresentation, caesarean delivery, and postpartum hemorrhage, along with a potential association with hysterectomy. [1,2] They may be asymptomatic or cause a range of severe and chronic symptoms. The most common presenting symptom is heavy menstrual bleeding, which can lead to anemia and fatigue and painful periods. [3-6] The prevalence of uterine fibroids during pregnancy is on the rise, attributed to couples' inclination to postpone their first pregnancy until the age of 30. Intramural and sub serosal fibroids measuring less than 3 cm are generally considered clinically insignificant. Pregnancies involving uterine fibroids are classified as high-risk pregnancies. While many pregnancies with a fibroid uterus proceed without complications, there is a possibility of serious issues arising during pregnancy, contingent on factors such as the size, site, and location of the fibroid. [7]

Uterine fibroids are one of the most commonly encountered benign tumors of the female reproductive tract. [8] The prevalence of uterine fibroids are underestimated as most of them are asymptomatic. [9] The prevalence of uterine fibroids in pregnant woman ranges from 1% to 10.7%. [10,11] The prevalence of uterine fibroids during pregnancy is increasing as more and more women delay child bearing to later in life and incidence of uterine fibroids increases with age. [12] Despite increasing incidence, the relationship between uterine fibroids and adverse obstetrics outcomes is not clearly understood. Many studies have shown that uterine fibroids can be related to lot of pregnancy complications like spontaneous abortion, placental abruption, antepartum hemorrhage, fetal malpresentation, preterm birth, premature rupture of membranes, dysfunctional labor, puerperal

infection, increased need of caesarean section and postpartum haemorrhage. [13-15]

The aim of the present study was to assess the obstetrics outcomes of uterine fibroids and their consequences in a tertiary hospital.

Materials and Methods

The present study was a retrospective study was undertaken in the Department of Obstetrics and Gynecology, AIIMS, New Delhi, India. The study was conducted for one year . 200 pregnant women who had USG findings of fibroid were enrolled in this study.

In this study, we enrolled pregnant women who had an ultrasonography (USG)-documented uterine fibroid diagnosed prenatally or antenatally. All the data, including demography, antenatal and postdelivery details were collected retrospectively from their case files, without breaching the confidentiality of the patient. Pregnant women who had a previous cesarean section, surgery, uterine deformity, or chronic conditions such as hypertension and diabetes were excluded. The case record proforma included demographic information, antenatal/intrapartum/postpartum history (maternal age, parity, gravida, gestational age at enrollment and at delivery, number and size of fibroids), clinical examination findings, laboratory investigations, USG findings (fetal parameters, liquor, placental location and change in fibroid size or any complication), and the outcome. Obstetric issues if any, like preterm birth, premature rupture of membranes (PROM), malpresentation, placenta previa, placental abruption, low birth weight), mode of delivery, morbidity, and mortality related to the management of pregnancy with fibroids were documented. Neonatal outcomes like birth weight, APGAR score, neonatal resuscitation, and neonatal intensive care unit (NICU) admission were documented. Descriptive statistics were used in the statistical analysis. For discrete variables, data was imported into Microsoft Excel (Redmond, WA, USA) and presented as numbers and percentages and mean and standard deviation were given for quantitative data and multiple logistics regression analysis was done to show any association of perinatal outcome with characteristics of fibroid.

Results

Table 1: Demographic data

Age (in years)	N	%
19 – 25	18	9
26 – 30	84	42
31 – 35	64	32
36 – 40	28	14
≥ 41	6 3	
Gravida status		
Primigravida	84	42
Gravida 2-3	76	38
Gravida ≥ 4	40	20

The mean age of patients in study was 31 years with standard deviation of 5.85, but majority of patients (42%) were in the 26-30 years age group, and then in the 31-35 years age group (32%). 9% of patients were less than 25 years and 3% of patients were more than 40 years of age. 42% of patients were primigravida and 38% of patients were of second or third gravida and 20% of patients were of fourth gravida.

Table 2: Features of uterine fibroid

Features of uterine fibroids	Number of cases	Percentage
Type of fibroid		
Intramural	20	10
Submucous	34	17
Subserous	146	73
Location of fibroid		
Cervix	12	6
Fundus	148	74
Tubes (cornual)	14	7
Pedunculated	26	13
Number of fibroids		
	60	30
2–3	94	47
>=4	46	23

The majority of the patients had subserous fibroids (73%) and 18% of patients had submucous fibroids. The most common location of fibroid was the fundus region (74%) and 13% of patients had pedunculated fibroid. 47% of patients had two to three fibroids.

Table 3: Pregnancy outcomes

Pregnancy outcome	Number of cases	Percentage
Gestational age at termination of pregnancy		
≤ 20 weeks	8	4
21-32 weeks	6	3
33-37 weeks	26	13
37-40 weeks	148	74
≥ 40 weeks	12	6
Delivery mode		
Cesarean section	124	62
vaginal normal delivery	50	25
Instrumental delivery	8	4
Assisted Breech delivery	4	2
Hysterotomy	8	4
Suction and evacuation	6	3

In this study, the majority of cases were delivered at term (80%). The most common mode of delivery was cesarean section (62%), followed by vaginal delivery (25%), including instrumental and assisted breech delivery.

Table 4: Complications

Complications	Number of cases	Percentage
Threatened preterm labour	44	22
Blood transfusion	42	21
Postpartum hemorrhage	20	10
Antepartum bleeding	22	11
Threatened miscarriage	134	17
Admission for pain in abdomen	12	6
Laparotomy for abdominal pain	0	0

Major complications during pregnancy were threatened preterm labor (22%) and threatened abortion (17%), whereas PPH occurred in 10% of cases, and blood transfusion was required in 21% of cases.

Table 5: Fetal outcome

Fetal Outcome	Number of cases	Percentage
Abortion	12	6
Low birth weight	34	17
Low APGAR Score at 5 minutes	22	11
Required neonatal resuscitation	30	15
Required NICU admission	42	21
Neonatal death	4 2	

Neonatal outcomes in our study were low birth weight (17%), low APGAR score at five minutes (11%), required neonatal resuscitation (15%) and required NICU hospitalization (21%), and neonatal mortality occurred in 2% of cases.

Discussion

Uterine leiomyoma is one of the most frequent benign tumors of the female reproductive system. It develops from the smooth muscle of the uterus. It affects 20-40% of women, although the estimated incidence during pregnancy is 0.1-3.9%. [16,17] The fact that uterine fibroid is linked to infertility and low implantation rates following in vitro fertilization (IVF) could explain the significantly lower prevalence in pregnancy. [18] The physical examination can only diagnose 42% of large fibroids (>5 cm) and 12.5% of smaller fibroids (3-5 cm).

[19,20] Ultrasound's ability to detect fibroids in pregnancy is much lower (1.4-2.7%), owing to the difficulties in distinguishing fibroids from normal myometrial thickness. [20] Pregnancy with fibroid is associated with complications like antepartum hemorrhage (APH), acute abdomen, red degeneration of fibroid, laparotomy, preterm labor, malpresentation, and malposition of fetus, postpartum hemorrhage (PPH), retention of the placenta, dysfunctional labor and, intrauterine growth restriction (IUGR). [21-22]

The mean age of patients in study was 31 years with standard deviation of 5.85, was similar to other studies like Saleh et al [23] and Egbe et al. [24] This shows that uterine fibroids are more associated with advancing maternal age. But majority of patients (42%) were in the 26-30 years age group, and then in the 31-35 years age group (32%). 9% of patients were less than 25 years and 3% of patients were more than 40 years of age. 42% of patients were primigravida and 38% of patients were of second or third gravida and 20% of patients were of fourth gravida. The majority of the patients had subserous fibroids (73%) and 18% of patients had submucous fibroids. The most common location of fibroid was the fundus region (74%) and 13% of patients had pedunculated fibroid. 47% of patients had two to three fibroids. In this study, the majority of cases were delivered at term (80%). The most common mode of delivery was cesarean section (62%), followed by vaginal delivery (25%), including instrumental and assisted breech delivery. Caesarean delivery was seen more commonly in intramural group which was similar to the study done by Zhao et al. [25] However other studies like Saleh et al [23] showed no difference in rate of caesarean delivery between intramural and sub serosal group. However, no difference was found in other obstetrics outcomes between the intramural and sub serosal group.

The impact of USG-diagnosed multiple or big (>=5 cm) fibroids on obstetric outcomes was investigated by Ciavattini et al.[20] The study included 219 women who had uterine fibroids. Women with numerous fibroids (n=34) had a significantly greater rate of preterm delivery, cesarean section, and breech presentation when compared to women without fibroids. Preterm birth and preterm premature rupture of membranes (PPROM) were more common in women with big fibroids (n=48). Multiple fibroids are linked to a higher risk of preterm birth and cesarean delivery, while large fibroids are linked to a higher risk of PPROM, according to their findings. In most cases, fibroids in pregnancy are treated conservatively. Pullemalla et al [26] studied 50 patients and observed that pregnant women with fibroid were at a higher risk of complications antenatally, intra natal, and also in the postpartum period. Pregnancy outcomes were abortion in two cases, delivery by cesarean section in 44 cases and four had normal deliveries. Thirty percent of patients had threatened miscarriage, and one case had PPH and needed a blood transfusion.

Neonatal outcomes in our study were low birth weight (17%), low APGAR score at five minutes (11%), required neonatal resuscitation (15%) and required NICU hospitalization (21%), and neonatal mortality occurred in 2% of cases. Zhao et al [27] conducted a multicenter investigation. In a study of 112,403 women, 3,012 (2.68%) were found to have at least one fibroid. Furthermore, the fibroid's location either intramural, submucosal or sub serosal has a statistically significant impact on the probability of PPH (5.6% sub serosal vs 4.7% submucosal vs 8.6% intramural). In a study by Sundermann et al [28], 4,622 pregnant women with a singleton pregnancy were evaluated and 475 of them had at least a single fibroid (10.3%). 352 pregnant women resulted in preterm birth (7.6%). On comparing the incidence of preterm and term birth, the prevalence of fibroid was similar in both groups (10.2% vs.10.3%). After considering the confounding factors, it was observed that preterm birth was not associated with uterine fibroid in pregnancy.

Conclusion

Uterine fibroid pregnancy is often asymptomatic and accidental. Early pregnancy abortion, term pregnancy PROM, and postpartum PPH are linked to fibroids. Also, malpresentation is more likely. Pregnant uterine fibroid patients have significant caesarean section rates. So, uterine fibroids render a normal pregnancy high-risk.

References

1. Vilos GA, Allaire C, Laberge PY. The management of uterine leiomyomas. J Obstet Gynaecol. 2015;37:157-81.
2. Lee HJ, Norwitz ER, Shaw J. Contemporary management of fibroids in pregnancy. Rev Obstet Gynecol. 2010;3:20-7.
3. Stewart EA. Uterine fibroids. Lancet. 2001;3 57(9252):293-8.
4. JrButtram VC, Reiter RC. Uterine leiomyomata: Etiology, symptomatology and management. Fertil Steril. 1981;36(4):433-45.
5. Khan AT, Shehmar M, Gupta JK. Uterine fibroids: Current perspectives. Int J Womens Health. 2014;6(7):95-114.
6. Kjerulff KH, Langenberg P, Seidman JD, Stolley PD, Guzinski GM. Uterine leiomyomas. Racial differences in severity, symptoms and age at diagnosis. J Reprod Med. 1996;41(7):483-90.
7. Javed M, Tariq R, Rashid M. Effect of Uterine Fibroid on Pregnancy Outcome. PJMHS. 201 0;4(4):476-8.

8. Day Baird D, Dunson DB, Hill MC, Cousins D, Joel M. High cumulative incidence of uterine leiomyoma in black and white women: ultrasound evidence. Am J Obstet Gynecol. 2003;188:100-7.
9. Guo XC, Segars JH. The impact and management of fibroids for fertility: an evidence-based approach. Obstetrics and Gynecology Clinics of North America. 2012; 39(4): 521-33.
10. Coronado GD, Marshall LM, Schwartz SM. Complications in pregnancy, labor, and delivery with uterine leiomyomas: a population-based study. Obstetrics and gynecology. 2000; 95(5):764–9.
11. Laughlin SK, Baird DD, Savitz DA, Herring AH, Hartmann KE. Prevalence of uterine leiomyomas in the first trimester of pregnancy: an ultrasound-screening study. Obstetrics and gynecology. 2009;113 (3):630–5.
12. Drayer SM, Catherino WH. Prevalence, morbidity, and current medical management of uterine leiomyomas. International journal of gynaecology and obstetrics. 2015; 131(2):117–22.
13. Stout MJ, Odibo AO, Graseck AS. Leiomyomas at routine second-trimester ultrasound examination and adverse obstetric outcomes. Obstetrics Gynecology. 2010;116 (5):1056-63.
14. Qidwai GI, Caughey AB, Jacoby AF. Obstetric outcomes in women with sonographically identified uterine leiomyomata. Obstetrics and Gynecology. 2006; 107(2 Pt 1): 376–82.
15. Ezzedine DNE. Are Women With Uterine Fibroids at Increased Risk for Adverse Pregnancy Outcome? Clin Obstet Gynecol. 20 16, 59(1):119–27.
16. Cavaliere AF, Vidiri A, Gueli Alletti S, Fagotti A, La Milia MC, Perossini S, Restaino S, Vizzielli G, Lanzone A, Scambia G. Surgical Treatment of "Large Uterine Masses" in Pregnancy: A Single-Center Experience. Int J Environ Res Public Health. 2021 Nov 19;18 (22):12139.
17. Stewart EA, Laughlin-Tommaso SK, Catherino WH, Lalitkumar S, Gupta D, Vollenhoven B. Uterine fibroids. Nat Rev Dis Primers. 2016 Jun 23;2:16043.
18. Yan L, Yu Q, Zhang YN, Guo Z, Li Z, Niu J, Ma J. Effect of type 3 intramural fibroids on in vitro fertilization-intracytoplasmic sperm injection outcomes: a retrospective cohort study. Fertil Steril. 2018 May;109(5):817-82 2.e2.
19. Purohit P, Vigneswaran K. Fibroids and Infertility. Curr Obstet Gynecol Rep. 201 6;5:81-88.
20. Ciavattini A, Clemente N, Delli Carpini G, Di Giuseppe J, Giannubilo SR, Tranquilli AL. Number and size of uterine fibroids and obstetric outcomes. J Matern Fetal Neonatal Med. 2015 Mar;28(4):484-8.
21. Milazzo GN, Catalano A, Badia V, Mallozzi M, Caserta D. Myoma and myomectomy: Poor evidence concern in pregnancy. J Obstet Gynaecol Res. 2017 Dec;43(12):1789-1804.
22. Sunkara SK, Khairy M, El-Toukhy T, Khalaf Y, Coomarasamy A. The effect of intramural fibroids without uterine cavity involvement on the outcome of IVF treatment: a systematic review and meta-analysis. Hum Reprod. 2010 Feb;25(2):418-29.
23. Saleh HS , Mowafy HE, Abd El Hameid AA, Sherif HE, Mahfouz EM. Does Uterine Fibroid Adversely Affect Obstetric Outcome of Pregnancy? Biomed Res Int. 2018; 2018: 83 67068.
24. Egbe TO, Badjang TG, Tchounzou R, Egbe EN. Uterine fibroids in pregnancy: prevalence, clinical presentation, associated factors and outcomes at the Limbe and Buea Regional Hospitals, Cameroon: a cross-sectional study. BMC Res Notes. 2018; 11(1): 889.
25. Zhao R, Wang X, Zou L, Li G, Chen Y, Li C, et al. Adverse obstetric outcomes in pregnant women with uterine fibroids in China: A multicenter survey involving 112,403 deliveries. PLoS ONE. 2017; 12(11): e01878 21.
26. Patnaik N, Reddy CV, Tirumala RT, Soren C, Geethika M. Outcome of pregnancies with fibroids and its associated complications: A prospective study. Age. 2019 Sep;27:5-26.
27. Zhao R, Wang X, Zou L, Li G, Chen Y, Li C, Zhang W. Adverse obstetric outcomes in pregnant women with uterine fibroids in China: A multicenter survey involving 112,403 deliveries. PLoS One. 2017 Nov 14;12(11):e0 187821.
28. Sundermann AC, Aldridge TD, Hartmann KE, Jones SH, Torstenson ES, Edwards DRV. Uterine fibroids and risk of preterm birth by clinical subtypes: a prospective cohort study. BMC Pregnancy Childbirth. 2021 Aug 17;21 (1):560.