



CHALLENGES WITH LARGE FIBROID UTERUS DURING PREGNANCY : A CASE SERIES

Nidhi Vardhan

Department of Obstetrics & Gynaecology, Kastuba Hospital, New Delhi

**Suparna
Bhattacharyya***

Department of Obstetrics & Gynaecology, Kastuba Hospital, New Delhi
*Corresponding Author

ABSTRACT

Most fibroids are asymptomatic during pregnancy and usually diagnosed on routine ultrasound examination. Management during labour depends on whether the fibroid is obstructing delivery. A midline subumbilical skin incision is advisable if the fibroid is large. The type of uterine incision depends on the site and the size of the fibroid. This case series aims to highlight clinical outcomes in pregnancies complicated by fibroids. Four pregnant women with known uterine fibroids were followed through antenatal, intrapartum, and postpartum periods at a tertiary care hospital. Maternal demographics, fibroid characteristics, pregnancy complications, mode of delivery, and neonatal outcomes were reviewed. Patients conceived spontaneously and were diagnosed with fibroids between early pregnancy and the second trimester. Fibroid sites included the cervix, anterior lower uterine segment, broad ligament and anterior/posterior wall of the uterus, with sizes ranging from 4.×4 cm to 9.7×8.5 cm. All deliveries were conducted by lower-segment cesarean section between 35 and 36 weeks of gestation. Myomectomy at the time of cesarean section should be discouraged as it is associated with high risk of postpartum haemorrhage and hysterectomy. Antenatal diagnosis of the size and location of fibroid is important for proper anticipation and better management of problems during intrapartum and postpartum period. Large fibroids may interfere with uterine contractility resulting in labour dysfunction and postpartum haemorrhage, so oxytocic therapy and blood transfusion may be necessary.

KEYWORDS : Fibroid, Classical Cesarean, Haemorrhage, Hysterectomy, Labour Dysfunction

INTRODUCTION

Uterine fibroids (leiomyomas) represent the most common benign tumors of the female reproductive tract, affecting 40-60% of women by age 35 years and up to 80% by age 50 years. The prevalence of fibroids during pregnancy ranges from 1.6% to 10.7%, though the true prevalence may be higher as many cases remain asymptomatic and undiagnosed¹. Fibroids can significantly impact fertility and pregnancy outcomes through various mechanisms. The relationship between pregnancy and fibroid growth is complex with some reporting significant growth in the first trimester followed by stability or regression in later trimesters^{2,3}. This growth pattern has been attributed to the effects of reproductive hormones and human chorionic-gonadotropin (hCG).⁴ Common maternal complications include pain, increased risk of miscarriage, antepartum haemorrhage, placental abruption, preterm labor, dysfunctional and obstructed labour^{5,6}. For the fetus, fibroids can lead to malpresentations such as breech or transverse lie, intrauterine growth restriction, and rarely, fetal demise. The diagnosis of fibroids during pregnancy primarily relies on ultrasound imaging. MRI may be employed in select cases when the diagnosis is uncertain or if complex anatomical relationships need further clarification, as it provides superior soft tissue contrast without ionizing radiation, making it safe for the fetus after the first trimester⁷. Management of fibroids in pregnancy is generally conservative. Treatment focuses on symptom relief, mainly using analgesics for pain management. Surgical intervention, such as myomectomy, is rarely performed during pregnancy due to the high risk of hemorrhage and the potential for pregnancy loss⁸. Exceptions include cases of intractable pain from torsed pedunculated fibroids or significant obstruction causing urinary retention. In most cases, myomectomy is deferred until the postpartum period if necessary. The location of the fibroid appears to have an important effect on the mode of delivery. Studies have also reported that uterine fibroids are associated with an increased risk of cesarean delivery, postpartum haemorrhage and increased incidence of blood transfusion and maternal morbidity⁹. Uterine fibroids do not appear to increase the risk of foetal growth restriction. Careful planning is required for delivery, particularly in cases with large or strategically located fibroids, where cesarean section might be the safer option.

large fibroids occupying lower uterine segment, cervix and broad ligament leading to dysfunction and obstructed labour which ultimately land up in cesarean section. There was also increased incidence of primary and secondary postpartum haemorrhage.

Case 1 (Pregnancy with Large Cervical Fibroid)

Patient M, 31 year old G4P2L2 at 35 weeks gestation, was admitted in emergency labour room with complain of labour pain. On Examination the cervical os was 5 cm dilated and 80% effaced, with the vertex at -3 station. A Cervical fibroid, approximately 6x4cm, arising from intravaginal part of cervix was noted. Due to presence of large fibroid occupying the vagina, foetal head failed to descend despite adequate uterine contraction. Patient was taken up for emergency cesarean section. Surgery was uneventful except increased intraoperative blood loss. The patient was discharged on sixth postoperative day with advice to return on tenth day for suture removal. The size of cervical fibroid did not reduce much in puerperium. Patient remained asymptomatic except pressure symptoms.

Patient later presented again to the obstetric Casualty department with secondary PPH on day 29 postpartum and was medically managed. Repeat ultrasonography revealed 6x4 cm cervical fibroid (non pedunculated) arising from posterior lip of cervix. Plan for cervical myomectomy was made, cervical myomectomy was done on day 44 postpartum.



Figure1:Transvaginal Ultrasound Showing a Large Hypo-echoic Cervical Fibroid Measuring Approximately 6.21×4.41cm, Distorting the Lower Uterine Segment and Obscuring Visuali-zation of the Cervical Os

We present a case series of four pregnancies complicated with



Figure2: Images Showing Cervical Myoma Popping Out at the Time of Delivery FFF

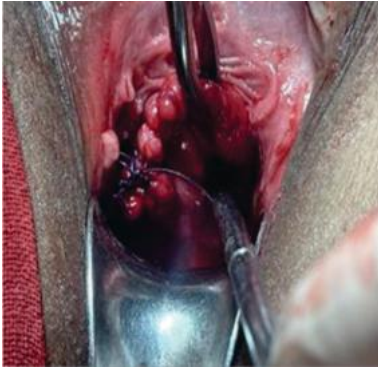


Figure 3: After Removal of Myoma on Day 44

Case 2(Pregnancy with large Broad Ligament Fibroid Abutting Left Cornua)

Patient B, 29 years Primi gravida with 36 weeks of gestation, presented to the casualty with cervical dilatation of 2 cm, vertex at -3 station and cervix that was 40-50 % effaced. The membranes were absent with clear leaking, and good uterine contractions were present. The Patient was unbooked and uninvestigated. Considering the presence of good uterine contractions, a trial of labour was given. However, despite adequate contraction, there was no progress in labour. After 4 hours, the cervix remained 4 cm dilated with vertex still at -3 station, absent membrane with minimal liquor draining.

In view of non-progress of labour, a decision for LSCS was made. During the cesarean section, a large fibroid measuring approximately 8x6cm was found occupying left cornua and left lateral wall of uterus extending to the broad ligament. Increased intraoperative hemorrhage occurred due to increased vascularity and extension of surgical incision to the left side. Bilateral uterine artery ligation was done. Intraoperative blood transfusion was given. Post partum period was uneventful.



Figure 4- Big Broad Ligament Fibroid Extending to Left

Cornua with Extention Causing PPH. Intra-op Image of Multiple Fibroid Uterus, with Big One Extending to Left Broad Ligament and Cornua

Case 3(Large Intramural Fibroid in the Lower Segment)

A 28 years old, Primi patient unbooked uninvestigated was admitted in Obstetric emergency with 36 weeks of gestation in early labour with history of leaking per vagina since one day. Induction of labour was done in view of prolonged leaking, however the patient did not show adequate progress of labour despite instillation of two dinoprostone Gels six hours apart. Decision for LSCS was taken in view of failed induction with prolonged rupture of membrane and poor Bishop Score. During the cesarean section, a large fibroid involving the entire lower uterine segment was found. The foetal head was palpable above the fibroid. As the lower segment was occupied by a large fibroid, a decision was made to perform a classical LSCS. Intraoperative blood loss was increased in view of classical cesarean section. Post operative period remained uneventful.



Figure 5- Large Intramural Fibroid in Anterior Myometrium Extending to Lower Uterine Segment

Case 4(Pregnancy with Large Intramural Fibroid in Ant and Post Lower Segment)

Patient U, primi 30 year old women presented to OPD at 13 weeks of gestation. Ultrasonography revealed intramural fibroid involving anterior and posterior lower uterine segment, measuring 48mmx28mm anterior and 44x 30mm on posterior segment. A repeat ultrasonography performed at 16 weeks showed a large intramural fibroid measuring 87x54mm in the anterior segment and 44x 30mm in posterior segment. Subsequent serial ultrasonography confirmed that the fibroid did not show further increase in size or migration further.

Throughout the pregnancy, the patient remained largely asymptomatic, except for mild lower abdominal pain. Labour induction was attempted using cerviprime gel under continuous CTG monitoring but her bishop didn't improve.

In view of failed induction, a decision for LSCS was taken. During the procedure, the uterine incision was given on lower uterine segment, 2 cm below the fibroid. Fetal head delivered with difficulty. Cesarean myomectomy was not done to avoid risk of intraoperative bleeding. The LSCS was uneventful, postpartum period remained uneventful.



Figure 6- Ultrasonography Showing Anterior Large Intramural Fibroid in Lower Uterine Segment



Figure 7- Intraoperative Image Showing Incision Given in Lower Uterine Segment Below the Fibroid

Table 1- Summary if Maternal, Fibroid, and Perinatal Outcome

S. No	Age (years)	Parity	Mode of De-livery	Fibroid site	Fibroid size (cm)	GA (At De-livery)	Birth Weight (g)	NIC U
1	31	Primi	LSCS	Cervical fibroid	6x8 cm	35	2825 gm	Yes
2	29	Primi	LSCS	Broad ligament	8x6 cm	36	3100	No
3	28	Primi	LSCS	Lower anterior segment	9.7x8.7 cm	36	2895	Yes
4	30	Primi	LSCS	Lower anterior and posterior segment	Ant- 8.7x5.5 cm Post- 4.4x3cm	39	2200	Yes

DISCUSSION

Our study provides important insights into the impact of uterine fibroids on pregnancy outcomes. The findings demonstrate significant maternal and fetal complications associated with fibroid-complicated pregnancies. The mean age of patients in our study 29.5 years. Maternal complications were significant, with preterm labor being the most common complication postpartum hemorrhage, preterm labor was the other most frequent complication, similar to the 30% reported in recent by Anjali et al.¹⁰ The caesarean section rate increases, common indications include malpresentation and non-progress of labor due to the obstructing pathway. The high caesarean rate reflects both direct mechanical effects of fibroids and associated complications. Caesarean delivery was necessitated by factors such as fetal malpresentation, obstructed labor risk, or fetal distress, aligning with previous studies reporting increased caesarean rates in fibroid pregnancies¹¹. Intraoperative challenges included technical difficulties due to fibroid location, and in almost all case, postpartum hemorrhage was observed. Postnatally, one patient required a blood transfusion, and another experienced secondary PPH, though no sepsis or severe morbidity was noted. Three neonates required NICU admission, mainly due to respiratory complications related to prematurity rather than direct fibroid effects. Birth weights varied from 2140 to 3100 g, and no cases of birth asphyxia were observe¹² The impact of fibroid characteristics such as size, number, and location appears pivotal in determining pregnancy outcomes. Large fibroids (> 4 cm), cervical or lower uterine fibroids, and multiple fibroids were associated with more adverse maternal and neonatal outcomes. Conservative management, with careful antenatal monitoring, was key to optimizing outcomes, although surgical interventions such as myomectomy were deferred postpartum in all cases¹³. This study's findings are consistent with previous reports emphasizing the need for individualized delivery planning in women with fibroids¹⁴. Early diagnosis, multidisciplinary team involvement, and planned caesarean at an optimal gestational

age remain critical components of care. Further larger studies are needed to refine guidelines regarding the timing of delivery and surgical strategies for fibroids detected during pregnancy.

CONCLUSION

Pregnancy complicated by fibroids poses considerable risks for both the mother and the fetus. Our cases identified several key challenges. There is an elevated incidence of preterm labor, often necessitating caesarean delivery. Additionally, fibroids significantly increase the risk of fetal growth restriction. Postpartum hemorrhage also emerges as a substantial concern in these pregnancies, requiring careful management. In this case series, all patients required cesarean delivery, and prematurity was a common finding, although major maternal or neonatal morbidity was minimized with timely intervention

Consent

Written informed consent was obtained from the patients for publication of anonymized clinical information and images. Patient identity has been adequately anonymized, and no identifying details are disclosed in this manuscript.

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Conflict of Interest

The authors declare no conflict of interest

REFERENCES

- Shavell VI, Thakur M, Sawant A, Kruger ML, Jones TB, Singh M, et al. Adverse obstetric outcomes associated with sonographically identified large uterine fibroids. *Fertil Steril*. 2012;97(1):107-10.
- Benaglia L, Cardellicchio L, Filippi F, Paffoni A, Vercellini P, Somigliana E, et al. The rapid growth of fibroids during early pregnancy. *PLoS one*. 2014;9(1):e85933. Hammoud AO, Asaad R, Berman J, Treadwell MC,
- Blackwell S, Diamond MP. Volume change of uterine myomas during pregnancy: Do myomas really grow? *J Minim Invasive Gynecol*. 2006;13(5): 386-90
- Horiuchi A, Nikaido T, Yoshizawa T, Itoh K, Kobayashi Y, Toki T, et al. HCG promotes proliferation of uterine leiomyoma cells more strongly than that of myometrial smooth muscle cells in vitro. *Mol Hum Reprod*. 2000;6(6):523-8
- Chhatwal J, Khanzada B, Kamran A: The impact of a huge fibroid on pregnancy: a case report. *Cureus*. 2024;16:e7168810.7759/cureus.71688
- Donnez J, Pirard C, Smets M, et al.: Unusual growth of a myoma during pregnancy. *Fertil Steril*. 2002;78:632-3. 10.1016/s0015-0282(02)03297-1
- Wang HM, Tian YC, Xue ZF, Zhang Y, Dai YM: Associations between uterine fibroids and obstetric outcomes in twin pregnancies. *Int J Gynaecol Obstet*. 2016, 135:22-7. 10.1016/j.ijgo.2016.04.013
- Pavone D, Clemenza S, Sorbi F, Fambrini M, Petraglia F: Epidemiology and risk factors of uterine fibroids. *Best Pract Res Clin Obstet Gynaecol*. 2018, 46:3-11. 10.1016/j.bpobgyn.2017.09.004
- Giuliani E, As-Sanie S, Marsh EE: Epidemiology and management of uterine fibroids. *Int J Gynaecol Obstet*. 2020, 149:3-9. 10.1002/ijgo.13102
- Handa N, Anjali. Feto maternal outcomes of fibroid in pregnancy: a retrospective observational study. *Int J Reprod Contracept Obstet Gynecol*. 2023;12:3080-5
- Vitagliano A, Noventa M, Di Spiezio Sardo A, et al.: Uterine fibroid size modifications during pregnancy and puerperium: evidence from the first systematic review of literature. *Arch Gynecol Obstet*. 2018, 297:823-35. 10.1007/s00404-017-4621-4
- 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, 28:484-8. 10.3109/14767058.2014.921675
- Deveer M, Deveer R, Engin-Ustun Y, Sarikaya E, Akbaba E, Senturk B, Danisman N: Comparison of pregnancy outcomes in different localizations of uterine fibroids. *Clin Exp Obstet Gynecol*. 2012, 39:516-8.
- Mettler L, Schollmeyer T, Tinelli A, Malvasi A, Alkatout I: Complications of uterine fibroids and their management, surgical management of fibroids, laparoscopy and hysteroscopy versus hysterectomy, haemorrhage, adhesions, and complications. *Obstet Gynecol Int*. 2012
- Mettler L, Schollmeyer T, Tinelli A, Malvasi A, Alkatout I: Complications of uterine fibroids and their , 2012:791248. 10.1155/2012/791248