

Labor dystocia due to lower uterine segment myoma: A case study and literature review

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ABSTRACT

Pregnancy-related complications include miscarriage, preterm birth, preterm placental abruption, postpartum hemorrhage, and a high rate of cesarean section. We hereby present a case of undiagnosed lower uterine segment fibroid located posteriorly causing obstructed labor and stillbirth, reported in a teaching hospital, Autonomous State Medical College, Fatehpur, catering to rural areas. Lack of adequate antenatal care is still a major shortcoming of the Indian Health system. Varied case reports show a tailored approach for fibroids in pregnancy.

Key words: Antenatal care, Myoma, Partogram, Postpartum hemorrhage

The prevalence of leiomyoma in pregnant women ranges from 3% to 12% [1]. Pregnancy-related complications include miscarriage, preterm birth, preterm placental abruption, postpartum hemorrhage, and a high rate of cesarean section. Complications during pregnancy and childbirth occur almost twice as often in women diagnosed with uterine fibroids than in those without [2].

We hereby present a case of undiagnosed lower uterine segment fibroid located posteriorly, causing obstructed labor and stillbirth. This case reflects the importance of early diagnosis and timely management of myoma in pregnancy. This was reported in a teaching hospital, Autonomous State Medical College, Fatehpur, catering to rural areas.

CASE PRESENTATION

A 32-year gravida 3 para 2 with one living issue at 34 weeks period of gestation was referred to our hospital from a peripheral hospital as non-progress labor. She was an unbooked case, and no ultrasound examination has been done to date.


On examination, she was febrile, dehydrated, and exhausted. She was tachypneic with a rapid pulse with a blood pressure of 90/60 mmHg. The retraction ring was felt between the tonically contracted upper segment and the distended lower segment. Fetal heart sounds were absent. On catheterization, urine was scanty

high colored. On a vaginal examination, the vulva was swollen and edematous; the vagina was hot and dry. The presenting part was jammed and molded excessively with a large caput succedaneum formation.

After immediate fluid resuscitation and antibiotics administration, investigations were sent, and the patient was shifted to the operation theater for cesarean delivery in view of impending lower uterine segment rupture. The stillborn fetus was delivered by reverse breech extraction. There was evidence of a large intramural fibroid in the posterior wall of the lower uterine segment measuring 10 cm × 9 cm × 8 cm (Fig. 1). The fibroid was responsible for obstructed labor and delayed management resulted in increased maternal morbidity and perinatal mortality. Medical management of intraoperative atonic postpartum hemorrhage was done, and the uterine incision was closed in layers. Intraoperative myomectomy was not done because of the risk of hemorrhage involved. A Foley's catheter was placed for a longer duration to prevent fistula formation. The patient recovered well.

DISCUSSION

Our case outlines the case of obstructed labor in multigravida due to lower uterine segment posterior wall fibroid causing adverse obstetric outcomes. Lack of adequate antenatal care (ANC) is still a major shortcoming of the Indian Health System. Approximately 7% (6.8%) of Indian women reported no ANC visit during pregnancy, and over three-quarters (80%) of Indian women reported inadequate receipts of ANC components [3]. Delays in

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Table 1: Review of literature of previous cases

| S. no. year | Study title | Name of author | Case diagnosis | Management/outcome |
|-------------|---|--------------------------------|--|---|
| 2025 | Unintentional exposure to leuprolide acetate during early pregnancy with a huge intramural myoma | Nuchpramool <i>et al.</i> [8] | Subcutaneous leuprolide acetate was received accidentally during early pregnancy for a 20-week-sized leiomyoma. | Term cesarean delivery with no fetal anomalies. |
| 2025 | Management of vaginal leiomyomas during pregnancy – A case report | Errmili <i>et al.</i> [9] | Vaginal leiomyoma at anterolateral vaginal wall. | Excised at 33 weeks. The patient delivered vaginally at 39 weeks. |
| 2025 | Complex cesarean myomectomy: A case report describing the removal of 15 fibroids during delivery | Mishra and Shubham [10] | Cesarean myomectomy was performed on a 40-year-old infertile primigravida at 36 weeks POG, excising 15 fibroids (2–15 cm), including a 15 cm intramural fibroid in the lower uterine segment obstructing the proposed cesarean incision. The procedure lasted 2 h and 10 min. | Procedure is uneventful. |
| 2025 | Intraperitoneal rupture of a degenerated uterine fibroid during pregnancy: A case report and literature review | Azouz <i>et al.</i> [11] | An emergency cesarean section was performed due to acute fetal distress during labor at 38 weeks. Intraoperatively, a ruptured fundal subserosal fibroid with hemorrhagic necrosis was observed. | Conservative management. |
| 2025 | Rapidly progressing ascites in a pregnancy with a massive fibroid: A case report and review of pseudo-Meigs syndrome. | Roecker <i>et al.</i> [12] | A 33-year-old gravida 2 para 0-0-1-0 woman with a massive, pedunculated fibroid developed a rapid onset of ascites and edema beginning at 5 weeks of gestation. | Cesarean myomectomy resolved the symptoms. |
| 2024 | Uterine fibroid as a cause of severe preeclampsia: A case report. | Garg <i>et al.</i> [13] | A 31-year-old female presenting with severe pre-eclampsia at 36 weeks gestation | Term cesarean myomectomy |
| 2024 | Huge fibroid in pregnancy: A case presentation. | Petroulakis <i>et al.</i> [14] | 18 cm fibroid in pregnancy managed by cesarean section at 34 weeks. | Interventional radiology (bilateral internal iliac artery balloons) and cell salvage (autologous transfusion) were used to minimize blood loss. |
| 2024 | Innovative management of a giant fibroid in pregnancy: A case report. | Tanveer <i>et al.</i> [15] | G2P1 presented with a massive subserosal posterior fibroid measuring 14 cm×18 cm, extending into the rectovesical pouch, compressing the rectum, sigmoid colon, left ureter, and bladder, thereby causing pressure symptoms. She underwent an elective cesarean section at 35 weeks of gestation and delivered a live male baby weighing 2.5 kg. | An interval myomectomy, 2 months after cesarean delivery, removing a massive fibroid measuring 22×17×10 cm and weighing 7 kg. |
| 2024 | Ultrasound-guided laparoscopy for conservative management of a massive degenerated uterine fibroid during pregnancy: A case report. | Alsalem <i>et al.</i> [16] | Ultrasound-guided laparoscopy involving biopsy and insertion of drain for conservative management of a massive 30 cm degenerated uterine fibroid 16 weeks period of gestation pregnancy. | Cesarean section at 33 weeks after developing an abscess within the fibroid. The neonatal outcome was excellent. |
| 2024 | The impact of a huge fibroid on pregnancy: A case report. | Chhatwal <i>et al.</i> [17] | 11 cm by 8 cm lower segment fibroid in pregnancy. Managed by elective c-section at 38 weeks. | A marked reduction in size to 7.6 cm×8.6 cm was noted on the 25 th postnatal day. |
| 2024 | Previa uterine myoma in full-term pregnancy: A case report and literature review. | Sanoh <i>et al.</i> [18]. | A posterior myoma–7 by 6 cm previa type 7 with a wide implantation base. | During cesarean section, an incision is made 3 cm above laterally while respecting the implantation base. Myomectomy not done. |

(Contd...)

Table 1: (Continued)

| S. no. year | Study title | Name of author | Case diagnosis | Management/outcome |
|-------------|---|--------------------------------|--|---|
| 2024 | Cystic degeneration of leiomyoma permagna in pregnancy: A case report. | Uli Pardede <i>et al.</i> [19] | The patient was diagnosed with cystic degeneration of uterine leiomyoma permagna and fetal growth restriction. | Cesarean myomectomy at 32 weeks. |
| 2023 | A case of an obstructed delivery by a large, lower uterine segment fibroid interlocked with a fetal mentum. | Miller <i>et al.</i> [20] | A 10-cm anterior, lower uterine segment fibroid caused an obstruction of the fetal body. | Large lower uterine segment fibroid causes arrest of the fetal head or body during labor. |
| 2021 | Enlarged uterine fibroid forming uterine diverticulum during pregnancy: A case report. | Akashi <i>et al.</i> [21] | A case of a uterine fibroid that was associated with a uterine diverticulum that enlarged during pregnancy and puerperium. | Uterine diverticulum should be considered in the differential diagnosis of the abnormal uterine cavity, and resection of the diverticulum is a useful treatment option for women who desire future fertility. |

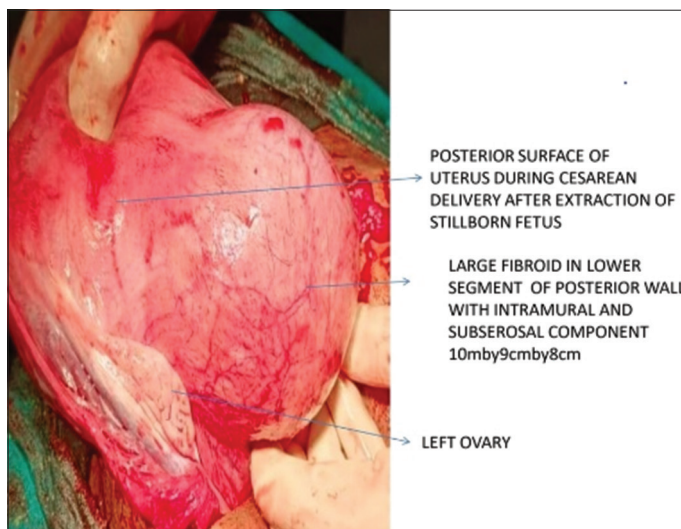


Figure 1: A large intramural fibroid in the posterior wall of the lower uterine segment measuring 10 cm × 9 cm × 8 cm

decision-making at a peripheral hospital and in transit to a referral center were also responsible for poor obstetric outcomes in this case. Partogram helps in decision-making and timely referral. Data from a large cohort suggest that fibroid characteristics such as number and size are associated with preterm birth and impact the severity of preterm birth. Increasing fibroid number and size is associated with a higher risk of earlier preterm birth compared to those without fibroids. Based on cohort studies, pregnancy with uterine fibroids can lead to preterm birth (gestational age [GA] <37 weeks) (odds ratio [OR] 2.27 [0.30–3.96]) and extreme preterm birth (GA 22–28 weeks, OR 20.09 [8.014–50.22]) [4].

Uterine fibroids >5 cm in diameter are more likely to grow during pregnancy and cause obstetrical complications [5]. The posterior wall lower uterine segment fibroid caused the misfit of the presenting part, thereby arresting its further descent in the passage. The location (especially low segment) and the number of fibroids may interfere with effective labor contractions. In a population-based study, the reported risk for dysfunctional labor with uterine fibroids was (OR 1.85, 95% confidence interval:

1.26–2.72) [6]. Moreover, decreased oxytocinase activity due to the fibroids at the uterus leads to a contractile uterus and inability to relax, thereby increasing the frequency of malpresentation and cephalopelvic disproportion [7]. The number of deliveries through cesarean section was reported to be increased with uterine fibroids mainly due to malpresentation. Fibroids may distort the uterine architecture and interfere with myometrial contractions, which can result in uterine atony and postpartum hemorrhage.

Myomectomy during cesarean section is disputable. Removal of intramural fibroids is an inadvisable procedure during cesarean section if the location of fibroid close to large pelvic vessels can cause massive peri- and post-operative hemorrhage. Fibroids located on the anterior wall, subserosal, or pedunculated, altered external appearance are common indications for myomectomy during cesarean section. Potential complications associated with it include increased intraoperative bleeding, post-operative hematomas, risk of post-operative sepsis, venous thromboembolism, abdominal adhesions, and the potential effect of future fertility. Table 1 summarizes some of the interesting case reports of fibroid in pregnancy in recent years [8–21].

CONCLUSION

The above case outlines the intrapartum complication of the large lower uterine segment fibroid. Routine ANC is imperative to screen for fibroid, thereby allowing delivery at tertiary centers where operative facilities are available. Partogram aids in timely decision-making, thereby facilitating timely referral. Human resource training is essential for better preparedness to deal with such complications. Varied case reports show a tailored approach for fibroids in pregnancy.

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