

Outcome of Triplet Pregnancy with Concurrent Uterine Myoma: Successful Management of a Rare Case

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ABSTRACT

The management of a triplet pregnancy complicated by a degenerating fibroid is reported. The patient presented with persistent abdominal pain radiating to the back and a watery vaginal discharge mixed with mucus and blood. She had no relevant medical, family, or medication history and had not received tetanus immunization during pregnancy. Examination revealed stable vital signs, a fundal height of 39 cm, and a monochorionic triamniotic triplet pregnancy with all three fetuses in cephalic presentation and normal heart rates. Vaginal examination showed 1 cm cervical dilation with intact membranes and a bloody vaginal discharge. The patient was diagnosed with a triplet pregnancy in latent labour, complicated by a large fibroid. A caesarean section was performed for delivery, followed by myomectomy and subsequent intrauterine device (IUD) insertion. The removed mass showed necrotic and hemorrhagic tissue. Histopathology confirmed a leiomyoma with cystic and red degeneration. The mother and her three babies were in good health after the operation and at the three-month follow-up. In conclusion, caesarean section combined with myomectomy can be safely performed in selected cases of triplet pregnancy with large fibroids, particularly when the mother and fetus are clinically stable.

Keywords: Cesarean section, high-risk pregnancy, myomectomy, triplet pregnancy, uterine fibroid



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Introduction

Triplet pregnancies impose a substantially greater cardiovascular burden on the mother, resulting in an increased risk of maternal morbidity and mortality compared to singleton pregnancies. Individuals with multiple gestations are at higher risk for complications during pregnancy and the postpartum period, including hemorrhage and postpartum depression. These elevated risks underscore the necessity for intensive prenatal monitoring and a multidisciplinary approach to maternal health management.¹⁻³

The presence of uterine leiomyoma in a triplet pregnancy further increases the complexity of clinical management, particularly due to the potential for complications such as degenerative changes, obstructed labor, and intraoperative bleeding. Uterine fibroids (leiomyomas) occur in up to 10% of pregnancies and may influence pregnancy outcomes based on their size, number, and location. Although fibroids are often asymptomatic, some cases exhibit cystic or red degeneration (carnea), leading to acute pain and complicating management decisions.^{4,5} Literature reviews have emphasized the ongoing debate regarding concurrent myomectomy during caesarean section, as clinicians must balance the benefits of removing large, symptomatic fibroids against the heightened risk of bleeding and prolonged operative time.⁶

Reports of triplet pregnancies complicated by large degenerating uterine leiomyomas are rare. This combination presents distinct clinical challenges related to the timing and mode of delivery, surgical planning, and postoperative recovery. The present case report details the management of a triplet pregnancy complicated by symptomatic degenerating fibroids, successfully treated with caesarean section and myomectomy during late prematurity. The distinctive feature of this case report is the uneventful clinical course of a triplet pregnancy complicated by large fibroids, from initial detection during antenatal care through to elective term caesarean section. This favorable outcome stands in contrast to several previously reported multifetal pregnancies, in which first-trimester surgical removal of fibroid masses led to complications, including fetal loss.^{7,8}

Case

A 30-year-old woman presented to the emergency department with persistent abdominal pain radiating to the back, which had been ongoing for several days. She reported the passage of mucus, blood, and watery discharge per vaginam several days before admission. During that episode, she was hospitalized and received antenatal corticosteroids to promote fetal lung maturation. The patient denied any history of chronic medical conditions, hereditary diseases, or medication use. She is a housewife and has been married for 10 years.

Obstetric history indicated gravida 2, para 0, abortus 1 (G2P0A1). The first pregnancy in 2013 ended in spontaneous abortion without curettage. The current pregnancy, conceived in 2025, had reached 30–31 weeks of gestation based on the last menstrual period dated November 15, 2024, with an estimated due date of August 22, 2025. The patient attended antenatal care more than four times at a primary health center. She had not received tetanus vaccination during the current pregnancy and had never used contraception.

On general examination, the patient was alert and oriented, with a blood pressure of 134/88 mmHg, pulse rate of 98 beats per minute, respiratory rate of 22 breaths per minute, body temperature of 36.2°C, and oxygen saturation of 99% on room air. Abdominal examination revealed a fundal height of 39 cm and an abdominal circumference of 104 cm. The estimated total fetal weight was approximately 4056 grams, consistent with a triplet pregnancy. All three fetuses were in a longitudinal lie in a single chorion and three amniotic sacs, with their backs on the right side; fetal heart rates were within normal limits (Fetus I: 143 bpm, Fetus II: 142 bpm, Fetus III: 140 bpm). Uterine contractions occurred every 10 minutes, each lasting 20–25 seconds. The presenting part was cephalic, and the descent was 5/5. The patient reported fetal movements. Ultrasonography revealed a well-defined, mixed-echoic intrauterine mass measuring $8.24 \times 9.66 \times 10.4$ cm, suggestive of a uterine myoma (Figure 1).

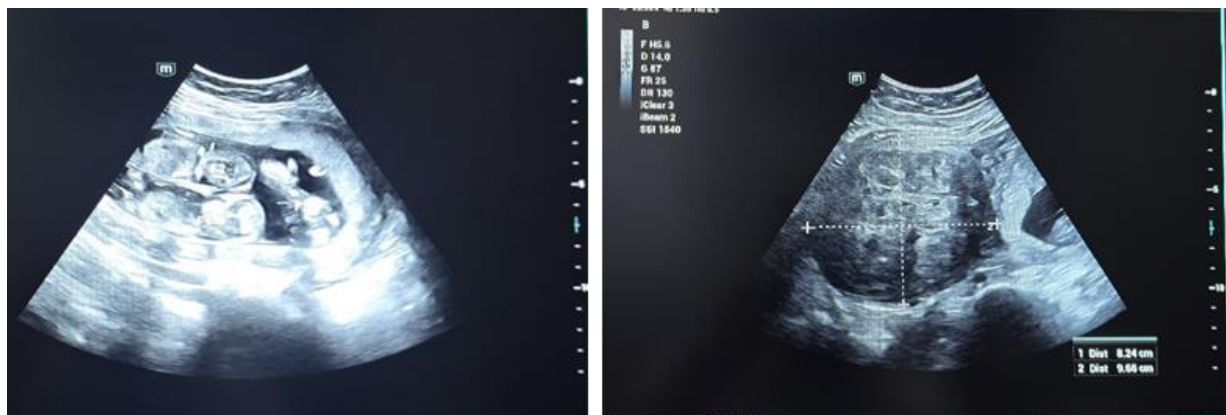


Figure 1. Ultrasonographic findings of the patient

Vaginal examination revealed a normal vulva and vagina. The cervix was thick and dilated to 1 cm. The fetal head was the presenting part, and the membranes were intact, accompanied by mucus, blood, and fluid. The fetal head was positioned at the pelvic inlet, and the pelvis was assessed as clinically adequate. The patient was diagnosed as G2P0A1 at 30–31 weeks of gestation with a triplet pregnancy in the latent phase of the first stage of labor. She was also evaluated as a candidate for postpartum intrauterine device (IUD) insertion.

A cesarean section was performed to deliver the triplets and the concurrent large intrauterine mass (Figures 2(a) and 2(b)). The incision was vertical midline under spinal and general anesthesia. In the abdominal cavity, a large mass measuring approximately $6.5 \times 8.0 \times 4.0$ cm was observed, occupying half of the upper abdominal floor, with no adhesions. Uterine visualization was possible, confirming the fibroid process. The giant myoma had a pedicle measuring approximately 6 cm in length and 8 cm in width, located in the anterior part of the uterine corpus. A uterine incision was then made in the lower uterine segment, followed by delivery of the three babies and subsequent uterine suturing. A myomectomy was performed to excise the mass, and the bleeding area from the myomectomy was sutured with separate stitches, achieving excellent hemostatic control. No intraoperative complications occurred. Blood transfusion was not necessary, given the estimated blood loss of approximately 600 mL and operative duration of 60 minutes.

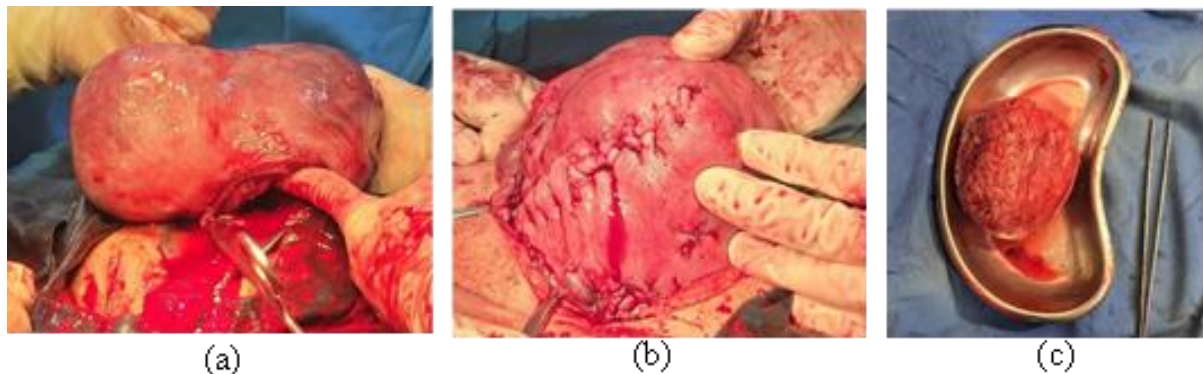


Figure 2. (a) Intraoperative view during myomectomy procedure following cesarean section; (b) Postoperative view following myomectomy procedure; (c) Resected uterine fibroid specimen sent for histopathological examination

The excised tissue was submitted for laboratory evaluation (Figure 2(c)). Cytological analysis identified necrotic and hemorrhagic tissue. Histopathological examination revealed proliferation of smooth muscle cells with elongated, non-atypical spindle nuclei arranged in parallel, with some intersecting. Several foci of cystic degeneration were present, with medium-sized, cystically dilated blood vessels containing erythrocytes. In the luminal portion, there was a necrotic mass, hemorrhagic foci, and numerous hemosiderophages. These findings confirmed a uterine leiomyoma with cystic and red (carneous) degeneration.

Postoperatively, the patient was transferred to the inpatient ward for monitoring and received intravenous injection therapy of ceftriaxone 1 gram/12 hours, ketorolac® 30 mg/8 hours, ranitidine 50 mg/8 hours, and tranexamic acid 500 mg/8 hours. Her vital signs remained

stable, and her overall clinical condition was satisfactory. All three babies were born in stable condition without any special care (Figure 3). The mother and all three babies were healthy at the three-month follow-up after discharge from the hospital.



Figure 3. The triplet newborns delivered via cesarean section, stabilized postnatally

Discussion

The patient was diagnosed with a triplet pregnancy. Spontaneous triplet pregnancies are exceptionally rare, with an incidence of approximately 1 in 8,000 natural conceptions.⁹ Globally, triplet and higher-order multiple pregnancies constitute more than 3% of all live births.¹⁰ The presentation of spontaneous triplet pregnancy is particularly notable in the absence of assisted reproductive technology (ART).

The patient presented with persistent abdominal pain radiating to the back, which histopathology confirmed as a uterine leiomyoma with cystic and red degeneration. Additionally, the patient experienced vaginal discharge consisting of mucus, blood, and watery fluid several days prior to admission at 30–31 weeks' gestation. These findings are indicative of preterm labor. Previous research has shown that up to 29.6% of women with triplet pregnancies deliver before 34 weeks of gestation.¹¹ Triplet pregnancies result in excessive uterine distension, leading to mechanical stretching and activation of the labor cascade, including increased corticotropin-releasing hormone, prostaglandins, and upregulation of oxytocin receptors.¹² This physiological response increases the likelihood of preterm birth before 34 weeks. Administration of corticosteroids during the latency period was initiated to promote fetal lung maturation, a practice demonstrated to reduce neonatal respiratory

morbidity. This intervention stabilized the pregnancy and facilitated optimal planning for neonatal care and delivery. Recent reviews support the use of a single course of antenatal corticosteroids to accelerate fetal lung maturation in women at risk of preterm birth, as this treatment reduces the risk of perinatal and neonatal death.¹³ Some clinicians advocate for prophylactic corticosteroid administration in all women with triplet pregnancies, regardless of preterm labor symptoms; however, current evidence does not support this approach.¹¹ Furthermore, abdominal pain is the most frequent symptom of leiomyoma, and premature labor is a recognized obstetric complication associated with larger fibroids. Degenerating fibroids can cause significant pain during pregnancy.¹⁴ Therefore, premature delivery in this case was attributable to both the triplet pregnancy and complications arising from uterine leiomyoma.

A cesarean section was performed to deliver the triplets, followed by a myomectomy to remove the uterine fibroids. The type of multiple gestation influences the delivery method, timing, and assessment of potential complications for both mother and fetus. No standardized prenatal testing protocol exists for triplet or higher-order pregnancies; instead, monitoring and delivery timing are individualized. Cesarean section is recommended for triplet or higher-order pregnancies due to the increased risk of cord accidents. Patients are instructed to fast for at least six hours prior to cesarean delivery to minimize the risk of aspiration. Intravenous antibiotics are administered within one hour of the procedure to reduce the risk of infection. Cefazolin dosing is weight-based: 1 g for patients weighing less than 80 kg, 2 g for those weighing 80–120 kg, and 3 g for those weighing more than 120 kg.¹⁵ This case was characterized by a relatively stable early labor profile. Admission during the latent phase of labor enabled the clinical team to implement timely interventions, such as administering antenatal corticosteroids to promote fetal lung maturity, coordinating with the neonatal intensive care unit (NICU) team, and developing a comprehensive delivery plan.

Simultaneous myomectomy with cesarean section is considered an effective and safe approach for treating large uterine fibroids during pregnancy. This procedure offers the dual benefit of addressing fibroid pathology while ensuring maternal and neonatal safety during cesarean delivery. The insertion of a Foley catheter to clamp the uterine artery is used to prevent excessive intraoperative bleeding. This technique can be applied to pregnant patients with large uterine fibroids who require cesarean section.¹⁶ Concomitant fibroid removal during cesarean delivery reduces surgical time, minimizes complications, avoids the need for subsequent surgeries, and decreases overall surgical costs associated with fibroid management. This approach is preferable to cesarean section alone, particularly when performed by experienced surgeons employing appropriate hemostatic techniques in a tertiary care setting. Concurrent

myomectomy and cesarean section can alleviate patient symptoms and reduce the likelihood of repeat surgical interventions.¹⁷ In certain cases, this procedure does not increase the risk of hemorrhage, postoperative fever, or prolonged hospital stay if performed with the correct indications and technique.¹⁸ While this operation has been reported as safe for singleton and twin pregnancies,¹⁷ there are no previous reports in triplet pregnancies. In the present case, the operation resulted in favorable maternal and fetal outcomes. Therefore, this report contributes new evidence regarding the safety of concurrent cesarean section and myomectomy in triplet pregnancies complicated by large fibroids.

In this case, the patient with a triplet pregnancy was multigravida and nulliparous and was considered a candidate for postpartum IUD insertion. IUD placement during cesarean section is effective in preventing unintended pregnancy within the first year postpartum, without impacting surgical outcomes.¹⁹ When a cesarean section is combined with myomectomy, the uterus is restored to its original shape following fibroid removal, and an IUD is inserted to prevent intrauterine adhesions. Uterine contractions remain stable following this procedure.²⁰ Among high-risk pregnancy populations, including women with cardiac disease or multifetal gestations, the IUD is recognized as a safe, highly effective, and convenient postpartum contraceptive. Its efficacy in preventing unintended pregnancies is well-established, with minimal failure rates, making it particularly suitable for women who should avoid short interpregnancy intervals. Additionally, the IUD does not interfere with lactation due to the absence of systemic hormonal effects, thereby supporting optimal breastfeeding practices. Immediate postpartum insertion within the first 10 minutes after placental delivery offers significant convenience and eliminates the need for a separate procedure, especially advantageous in settings with limited follow-up access. Therefore, the IUD represents a valuable contraceptive option for women recovering from high-risk pregnancies who require reliable, long-term, and breastfeeding-compatible contraception.²¹

The management of triplet pregnancies complicated by uterine leiomyomas is further challenged by risks such as degenerative changes, obstructed labor, and intraoperative hemorrhage. Uterine fibroids, or leiomyomas, affect up to 10% of pregnancies and can alter gestational outcomes depending on their size, number, and location.²² In several similar cases of multifetal pregnancies, surgical removal of fibroids was performed in the first trimester, but the outcome was not entirely successful. Ribeiro et al. reported the delivery of dichorionic diamniotic twins with giant uterine fundal myomas. Myomectomy was performed at 18 weeks' gestation due to complications of uterine prolapse and decreased gastric capacity. The results showed the death of one fetus two weeks after the myomectomy, and the other fetus was

successfully delivered by cesarean section at term.⁷ Muanda-Mbaki et al. reported a heterotopic triplet pregnancy with one fetus in the fallopian tube that ruptured at 8 weeks' gestation. Laparoscopic salpingectomy was performed immediately, but only one fetus survived and was born healthy at term.⁸ In this case, the absence of acute maternal or fetal emergencies during early hospitalization was unexpected for a high-order multiple pregnancy complicated by fibroids, and underscores the importance of vigilant antenatal surveillance and timely hospitalization. This scenario demonstrates a rare and favorable balance between significant risk and clinical stability. Although the pregnancy was associated with considerable risk due to its triplet status and preterm presentation, the presence of latent labor, reassuring fetal status, and cephalic presentation facilitated an environment conducive to optimizing maternal and neonatal outcomes. Such presentations are uncommon and offer valuable insights into management strategies for triplet pregnancies that do not initially present with emergencies.

This case of triplet pregnancy complicated by uterine fibroids illustrates several important clinical lessons. Early identification and prompt referral of high-risk pregnancies to tertiary care centers are crucial for optimizing maternal and neonatal outcomes. Administration of corticosteroids and vigilant inpatient monitoring were instrumental in reducing severe neonatal morbidity, particularly in the context of anticipated prematurity. In a triplet pregnancy with large fibroids, cesarean myomectomy with hemostatic techniques tends to show low rates of intraoperative hemorrhage, postoperative fever, or prolonged hospital stay. Concurrent myomectomy offers dual benefits: treating fibroids while ensuring maternal and neonatal safety, reducing surgical time, avoiding repeat surgeries, and lowering costs. This case supports safety even in triplets. Furthermore, the case emphasizes the significance of comprehensive family planning, especially for high-parity or high-risk obstetric patients, to mitigate complications in future pregnancies. However, the absence of histopathological images of the excised tissue should be noted as a limitation of this case report. Overall, this case reinforces the necessity of individualized, physiology-based decision-making in rare and complex obstetric situations, where tailored management can achieve favorable outcomes despite substantial risk factors.

Conclusion

This case demonstrates the multifactorial complexity of spontaneous triplet pregnancy complicated by preterm labor at 30 to 31 weeks, primarily influenced by uterine overdistension and potentially aggravated by the presence of a uterine myoma. Although spontaneous triplet gestations are rare and inherently high-risk, early onset of labor often results from mechanical

stretch and hormonal activation pathways that exceed physiological thresholds. The presence of a myoma may further reduce uterine compliance, contribute to fetal malpresentation or placental dysfunction, and elevate the risk of preterm delivery. Decisions regarding the mode of delivery should be individualized, considering fetal positions, labor progression, and maternal factors, while ensuring neonatal intensive care unit preparedness. Cesarean section combined with myomectomy can be safely performed in selected cases of triplet pregnancy with large fibroids, particularly when the mother and fetus are clinically stable. Additionally, immediate postpartum contraception, such as IUD placement, is essential to prevent rapid repeat pregnancy and to support long-term maternal health in high-risk multiparous patients.

Conflict of interest

No potential conflict of interest relevant to this article was reported.

Informed consent

Written consent was obtained from the patient in this report.

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