

# A HUGE LEIOMYOMA SUBJECTED TO A MYOMECTOMY DURING A CESAREAN SECTION

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Among women of reproductive age, uterine leiomyomas are quite common benign pelvic tumors. Stimulation by estrogen may progressively increase the size of a uterine myoma [1]. The estimated incidence of myomas in pregnancy is 2–4% [2–4]. The medical literature has reported an increasing rate of myomectomies during cesarean section in the past decade [1,5,6]. However, a myomectomy performed during pregnancy remains a rarity. Here, we present a case with a huge 30-cm diameter leiomyoma that was successfully managed by an intrapartum myomectomy.

A 32-year-old woman, gravida 0, with a huge pelvic mass for many years presented to our clinical outpatient department on September 15, 2006. The size of the pelvic mass had progressively increased, and pelvic compression syndrome had become more severe in recent months. Transabdominal sonography showed a 35-cm diameter uterine mass on the left side with copious blood flow. Under a diagnosis of a huge intramural leiomyoma, a myomectomy was initially arranged. However, 1 month later, the patient came to our outpatient department and mentioned a delay in her menses period. The result of a urine pregnancy test was positive. Transabdominal sonography revealed a gestational sac aged 6 weeks that was near the upper right side of the intrauterine cavity, and a fetal heartbeat was noted. Abnormal massive vaginal bleeding with blood clots was noted 1 week later, and the sonography showed an ill-defined gestational sac. At that time, an incomplete abortion was suspected. After discussion with the patient, mifepristone was prescribed in another clinic to terminate the pregnancy. Intermittent vaginal bleeding and low abdominal pain were noted for several days, and the bleeding lasted about 1 week. At follow-up, sonography revealed

a gestational sac aged 7 weeks that was still in the uterine cavity and with a normal fetal heartbeat. The huge myoma was 35 cm in diameter. Laboratory data showed a hemoglobin level of 10.5 g/dL. Therefore, the patient decided to preserve the fetus, and regular prenatal care was performed in our hospital. The fetus grew smoothly on the right side of the uterine cavity, and the size of the huge left-side myoma also progressively increased during the pregnancy. A detailed sonographic image of the fetus at 20 weeks of gestational age showed no evidence of major fetal structural abnormalities. The fetus was noted to have a vertex presentation at the third trimester, and the placenta was located on the posterior wall of the uterus. Intermittent preterm uterine contractions were revealed at 35 weeks' gestational age, at which time the intramural tumor size had increased to 40 cm in diameter. A cesarean section with a myomectomy was performed at 36 weeks' gestational age. During surgery, a live male baby weighing 2,858 g was successfully delivered, and the large intramural myoma was removed. The uterine arteries were ligated bilaterally after closing the wound of the uterus. Estimated total blood loss was 1,400 mL. Postoperative maternal hemoglobin level was 9.4 g/dL without a blood transfusion. Postpartum uterine contraction occurred without incident, and the woman and her baby were discharged 1 week later with no other complications. The pathology report revealed that the leiomyoma weighed 3,645 g, with red degeneration and hyaline disintegration.

The prevalence of uterine leiomyomas during pregnancy is 2–4% [2–4] with sufficient tumor size clearly detected by ultrasound examination. The prevalence of fibroids larger than 1 cm reported by Strobelt et al was 1.6% [7], while Exacoustos and Rosati reported that 4% of their pregnant patients had noted leiomyomas of > 3 cm [8]. Vergani et al [3] followed 25,154 women, and 608 cases (2.4%) had a pregnancy with a myoma in the uterus. The myoma size in 342 cases was < 5 cm, and 251 women had leiomyomas of ≥ 5 cm.

Almost 22–32% [4] of uterine leiomyomas may progressively increase in diameter owing to persistent



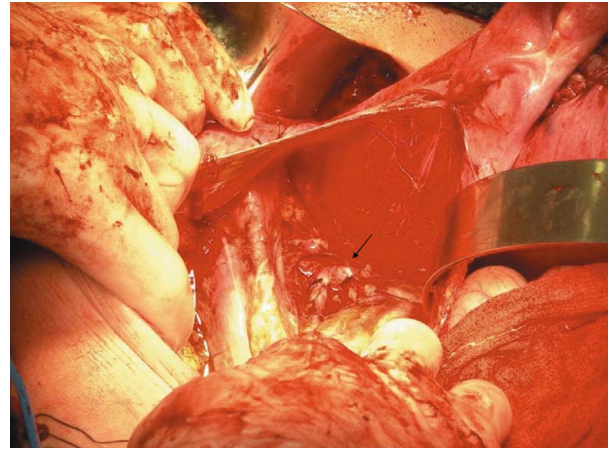
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**Figure 1.** A huge leiomyoma after delivery of the baby during cesarean section.

stimulation by estrogen [1] and the profuse blood supply during pregnancy. Different locations and tumor sizes of uterine leiomyomas have different effects on patients. After reviewing previous studies, the antepartum complication rate was 10–40% [4]. Most were associated with miscarriage, malpresentation of the fetus, placenta abruption, preterm delivery, an ongoing pregnancy condition, dysfunctional labor, type of delivery, and morbidity and mortality rates of the fetus and mother [3,4]. An excessively large tumor may induce uterine atony during labor. If the location of the leiomyoma is in the lower segment of the uterus, it may block the passage required for a vaginal delivery. A cesarean section may be suggested by obstetricians before labor onset after a prenatal evaluation. Vergani et al [3] performed a retrospective cohort study which followed 251 pregnant women with a large leiomyoma ( $\geq 5$  cm). They found that the risk of a cesarean delivery before labor may increase by 26% for each 1-cm diameter increase in the myoma.

A myomectomy during a cesarean section always entails greater risks as a result of uncontrollable bleeding. The operative risks vary with different locations and different sizes of the myoma. Previous studies drew different conclusions for several reasons. After reviewing the literature, Ouyang [4] suggested not performing an intrapartum myomectomy because of increased hemorrhaging unless the tumor was a pedunculated or subserosa fibroid. Hassiakos et al [5] reported on 47 pregnant women who had a myomectomy during cesarean section, and another 94 women who had leiomyomas but only underwent a cesarean delivery. The myomectomy group showed only a mild increase in the operative time (mean, 15 minutes), and no other complications developed during the surgery or in the puerperium period. Yuddandi [6] reported a successful cesarean section with removal of a massive fibroid of 17 cm in diameter. Even with a total discharge during



**Figure 2.** The uterine arteries (arrow) were ligated bilaterally after closing the wound of the uterus.

the surgery of 5,300 mL, the patient returned home 1 week later with no other complications. Kaymak et al [1] reported on 40 women who underwent a myomectomy during a cesarean section and 80 women with a myoma of the uterus who only accepted cesarean delivery. The outcomes between the two groups showed no differences except for a small increase in the duration of the operation (9 minutes) and the length of hospital stay (0.6 days) in the myomectomy group ( $p < 0.05$ ). An experienced obstetrician was very important in handling the amount of intraoperative hemorrhage with a very quick technique.

In this case, we successfully removed the huge myoma of 40 cm in diameter during a classical cesarean section. We helped this patient deliver her baby and removed the large mass in a single operation. The uterine arteries were ligated bilaterally to reduce intraoperative and postoperative bleeding. This was a key point and can potentially decrease the recurrence of the uterine leiomyoma, as stated in a report by Liu et al in 2006 [2]. This case illustrates that a myomectomy during a cesarean section can be safely performed in carefully selected cases by an experienced obstetrician.

## References

1. Kaymak O, Ustunyurt E, Okay R. Myomectomy during cesarean section. *Int J Gynaecol Obstet* 2005;89:90–3.
2. Liu WM, Wang PH, Tang WL, Wang IT, Tzeng CR. Uterine artery ligation for treatment of pregnant women with uterine leiomyomas who are undergoing cesarean section. *Fertil Steril* 2006;86:423–8.
3. Vergani P, Locatelli A, Ghidini A, Andreani M, Sala F, Pezzullo JC. Large uterine leiomyomata and risk of cesarean delivery. *Obstet Gynecol* 2007;109:410–4.
4. Ouyang DW. Obstetric complications of fibroids. *Obstet Gynecol Clin North Am* 2006;33:153–69.

5. Hassiakos D, Christopoulos P, Vitoratos N, Xarchoulakou E, Vaggos G, Papadias K. Myomectomy during cesarean section: a safe procedure? *Ann NY Acad Sci* 2006;1092: 408–13.
6. Yuddandi N. Management of a massive caseous fibroid at caesarean section. *J Obstet Gynaecol* 2004;24:455–6.
7. Strobelt N, Ghidini A, Cavallone M, et al. Natural history of uterine leiomyomas in pregnancy. *J Ultrasound Med* 1994;13: 399–401.
8. Exacoustos C, Rosati P. Ultrasound diagnosis of uterine myomas and complications in pregnancy. *Obstet Gynecol* 1993;82:97–101.