Leiomyoma can be found concomitant with pregnancy and can cause complications during labor, delivery, and postpartum management. In the present case, a 26-year-old nulliparous patient at 39.4 weeks gestational age with a 12×9-cm retroplacental leiomyoma underwent a spontaneous vaginal delivery. Nine weeks after delivery, the patient presented with acute pain and vaginal bleeding. Immediate manual removal of the bulk of the leiomyoma tissue via vaginal approach was performed. Four weeks later, the patient returned for removal of the remaining tissue via hysteroscopic excision. This case demonstrates that a large retroplacental leiomyoma can be associated with both immediate and delayed postpartum complications, and it can be managed in a minimally invasive way.

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Uterine leiomyomas are the most common pelvic tumors in women of reproductive age, and they are associated with complications during pregnancy, labor, and delivery. These complications include preterm labor, placental abruption, fetal malpresentation, labor dystocia, increased risk for cesarean delivery, and postpartum hemorrhage. The prevalence of leiomyomas during pregnancy is estimated between 3% and 13%. Growth of a uterine leiomyoma typically occurs in the first trimester, but the increase or decrease in total volume is unpredictable. The primary symptoms in patients with uterine leiomyoma include feelings of pressure and pain in the pelvis, which tend to worsen as the size of the leiomyoma increases. In the postpartum period (6 weeks), a retroplacental leiomyoma greater than 3 cm is associated with the greatest risk of hemorrhage. The primary mechanism of hemorrhage is attributed to either uncoordinated uterine contractions leading to uterine atony or retained products of conception.

Although spontaneous expulsion of a leiomyoma in the postpartum period after vaginal or cesarean delivery has been reported, reports of delayed expulsion are rare, and optimal management is based solely on clinical experience. The current case report describes the presentation and management of a retroplacental leiomyoma causing postpartum hemorrhage and degeneration with prolapse in the immediate and delayed postpartum period, respectively.

Report of Case

A 26-year-old nulliparous woman at 10 weeks’ gestational age, with no known risk factors, went to her obstetrician for established prenatal care. Ultrasonography showed a
6.7-cm intramural leiomyoma in an anterior fundal, retroplacental location. The leiomyoma achieved a maximal size of 12×9 cm at 38 weeks’ gestational age (Figure 1). The patient was informed of the risks associated with such a large leiomyoma during pregnancy, including risks during labor and delivery.

At 39.4 weeks’ gestational age, the patient presented to the labor and delivery department in active labor and delivered spontaneously with epidural anesthesia in place. The placenta was delivered with manual traction and appeared intact. Estimated blood loss at the time of delivery was 500 mL. Two hours after delivery, the patient had increasing pelvic discomfort and was noted to have heavy lochia and uterine atony. Concern for retained products of conception because of the retroplacental location of the leiomyoma necessitated surgical intervention. The patient was taken to an operating room, where oxytocin and misoprostol were administered, and both uterine massage and curettage were done. Approximately 1 L of blood was lost during the procedure. Intraoperative ultrasonography showed a thin endometrial lining and the leiomyoma in an intramural location. The uterine atony resolved, and no products of conception were found during curettage. Because of the blood loss, the patient was given 2 units of packed red blood cells through transfusion.

One day after delivery, an osteopathic structural examination demonstrated L3-5 extended, sacrum flexed, and right anterior pelvis and right hemi-diaphragm restricted on inhalation. She received osteopathic manipulative treatment with craniosacral and muscle energy techniques and showed improvement in tissue texture and mobility. She was discharged home 2 days after delivery.

At 6 weeks postpartum, the patient presented to her obstetrics and gynecology office for a scheduled visit. She reported brownish, continuous discharge for the past 6 weeks and was treated empirically for endometritis with oral antibiotic therapy. She continued to have irregular lochia and increasing amounts of pelvic pain, culminating in presentation to the emergency department 9 weeks after delivery with vaginal and low back pain that she described as similar to labor contractions. Physical examination demonstrated left lower quadrant pain, and abdominal palpation detected a uterus approximately the size of a 14-week gestation. Pelvic examination via speculum revealed a 4-cm mass prolapsing through the cervical os, with a scant amount of dark red blood in the vaginal vault. On bimanual examination, the mass was firm to palpation, and the cervix was noted to be markedly dilated. Bedside ultrasonography confirmed the diagnosis of a prolapsing uterine leiomyoma.

The patient was informed of options for management, including attempt for removal via a vaginal approach, abdominal myomectomy, and a hysterectomy. She was also given the option of being transferred to a tertiary care center, where additional options could be offered. In this acute but nonemergent situation, the patient opted for immediate removal via a vaginal approach, which was the least invasive option. She was taken to the operating room, where, with improved visualization, the cervix was noted to be 5 to 6 cm dilated. The mass was able to be palpated manually with the extension of the physician’s hand into the uterine cavity. The bulk of the leiomyoma was removed in a piecemeal fashion using blunt and sharp dissection, but myometrial attachments to the left lateral portion of

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**Figure 1.**
Pelvic ultrasonographic image of the retroplacental location of the leiomyoma in the patient’s third trimester.
the uterine wall did not allow for complete removal. The tissue removed from the uterine cavity was necrotic and devoid of a true leiomyoma capsule. The patient was discharged home on postoperative day 1. Subsequent pathologic examination revealed a 12×9×6-cm gross specimen, weighing 170 g, composed of largely necrotic tumor of smooth muscle origin with no cellular atypia or increased mitotic activity.

At a follow-up appointment 2 weeks after the manual removal of the leiomyoma tissue, ultrasonography (Figure 2) and magnetic resonance imaging of the pelvis demonstrated a 2.9-cm submucosal uterine mass with an irregular appearance. Three weeks after the follow-up appointment, the patient underwent an attempt at complete excision using a hysteroscopic tissue removal system. A 2×1-cm submucosal mass was visualized and morcellated. Pathologic examination revealed tissue consistent with leiomyoma (Figure 3). Four months after the mass was morcellated, a hysterosalpingogram showed 2 small filling defects on the left lateral uterine wall at the site of excision. No pedunculated filling defect or obstruction was noted. Two years after the final surgical procedure, the patient continued to be asymptomatic, with normal menses.

Discussion

Uterine leiomyomas are prevalent in women of reproductive age, and they are associated with complications during pregnancy, labor, and delivery. Size and location of the leiomyoma are the greatest predictors of morbidity. In the current case, in addition to the risks associated with all leiomyomas during pregnancy, the retroplacental location of the leiomyoma increased the likelihood of placental abruption and postpartum hemorrhage, which could have been caused by retained products of conception. The patient had an uncomplicated term delivery; however, an immediate postpartum hemorrhage with a high suspicion for retained products of conception necessitated emergent dilation and curettage in tandem with the administration of uterotonics. The patient’s irregular lochia and pain late in the postpartum period was attributed to the degenerative leiomyoma. It is possible that postpartum curettage caused a disruption of the myometrium at the placental implantation site, allowing the degenerating leiomyoma to erode through the uterine submucosa into the endometrial cavity. Involution and degeneration continued, allowing for delayed postpartum prolapse of a large.
portion of the leiomyoma. Manual removal of the majority of the tissue was possible due to the degenerative process and partially pedunculated nature, but the inability to remove the mass in its entirety was likely due to the true intramural location of the leiomyoma. Management of prolapsed leiomyoma typically involves surgical intervention via a vaginal or abdominal approach through either a myomectomy or hysterectomy. A vaginal myomectomy is largely successful after prolapse occurs. In the current case, it was possible to alleviate the patient’s symptoms (ie, pain and bleeding) in the short term and then use a second, delayed attempt at removal with a minimally invasive hysteroscopic technique.

Conclusion
The current case demonstrates the unique complications that can be associated with leiomyomas during pregnancy. Retroplacental leiomyomas can mimic retained products of conception in the immediate postpartum period, which can lead to the need for aggressive intervention. Subsequently, as in the current case, delayed prolapse can occur after delivery. This case also illustrates the use of minimally invasive techniques for the removal of a degenerating leiomyoma in an acute but nonemergent situation.

References

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