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Large Subserosal Leiomyoma with Omental and Bowel Adhesion Diagnosed during Pregnancy: A Case Report

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Abstract
Uterine leiomyoma (or fibroids), represent the most frequent benign tumor of the uterus among reproductive age women. We present a 35-year-old primigravida diagnosed with gestational diabetes coexisting with a uterine fibroid that caused no complaints during pregnancy. At 38 weeks and during a scheduled elective C-section, a right fundo-lateral wall fibroid measuring 11 x 10 cm in size, with multiple omental and bowel adhesions, was found. It started with severe bleeding, which was efficiently controlled by pressure, thus avoiding hysterectomy. A drain was left in situ. On the 10th post-operative day, she had a normal pelvic ultrasound and was scheduled for elective myomectomy 6 months later. This case report explores the challenges in reducing intra- and postoperative bleeding from a large leiomyoma.
Keywords: Uterine Leiomyoma, C-Section, Bleeding, Gestational Diabetes, Primigravida

Introduction

The predominant noncancerous tumor of the uterus is uterine leiomyoma, also known as a fibroid. It arises from the uterus's smooth muscle cells, and the highest incidence is noticed throughout the reproductive years [1,2]. Fibroids annually contribute to hysterectomies, accounting for more than 1/2–1/3 of all cases [3]. The development of myomas is associated with several epidemiologic factors, such as age, race, genetics, hormones, lifestyle, and others. However, our understanding of these factors is still incomplete and requires further research [2]. Fibroid presentation may differ across the population, although it often shows no symptoms during pregnancy. However, the presence of fibroids deems the pregnancy to be high-risk due to the possibility of having pregnancy-related problems such as antepartum bleeding, early miscarriage, fetal malpresentation, premature rupture of membranes, preterm labor, labor dystocia, and postpartum hemorrhage [4]. The treatment strategy should be tailored for each patient based on age, tumor size, symptoms, complications, and family planning goals. It is important to individualize the management approach for each patient.

Case Presentation

A 35-year-old primigravida woman presented for the first antenatal care with a gestational age of 21 weeks; she had been deaf and mute since she was born, and her past medical and surgical history was unremarkable. On examination, she was not pale, her vital signs were normal, her body mass index was 23.8 kg\m^{2,} and her uterus measured 28 weeks of gestation.

An oral glucose tolerance test confirmed the diagnosis of gestational diabetes mellitus. She was advised to undergo lifestyle modification, and metformin was prescribed at 500 mg once daily. Doppler ultrasound was done (Fig. 1), showing a single viable active fetus, longitudinal lie, breech presentation, and a normal amount of liquor.

The placenta was right fundo-anterior, not previa. Estimated gestational age by biparietal diameter and femoral length was 21 weeks^{+6} days and 20 weeks^{+2} days, respectively. No gross anomalies could be seen. Additionally, a large sub-serous fibroid measuring 11 x 9.6 cm related to the RT fundo-lateral wall showed scanty vascularity in color Doppler attenuated centrally. The patient was pregnant at 21 weeks of gestation and diagnosed as having fibroid coexisting with pregnancy; since the fibroid caused no specific complaint in her current pregnancy, she was advised to follow up only. She was advised of a routine monthly visit till the third trimester to be increased to 2 visits per month afterward.

At 38 weeks of gestation, she was scheduled for an elective C-section; the obstetric indication was cephalopelvic disproportion and old age primigravida.

Haematological, coagulation profile, and blood biochemistry were normal, and two units of crossed-matched blood were prepared. Under general anesthesia and via a Pfannenstiel incision, we reached the uterus, and through a C-shaped incision, a 2,800-gram infant was delivered who cried immediately after birth, with an Apgar score of 10. The placenta was delivered by controlled cord traction.

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The fibroid was attached to the right fundo-lateral wall, 11 x 10 cm in size, with multiple omental and bowel adhesions; it was left in place without intervention. However, it started bleeding; hysterectomy was avoided (Fig. 2, A & B). Pressure was applied, and after 15 minutes, the bleeding stopped, and a drain was inserted. Her blood pressure was 110/70 mmHg, and her pulse rate was 89 beats/min.

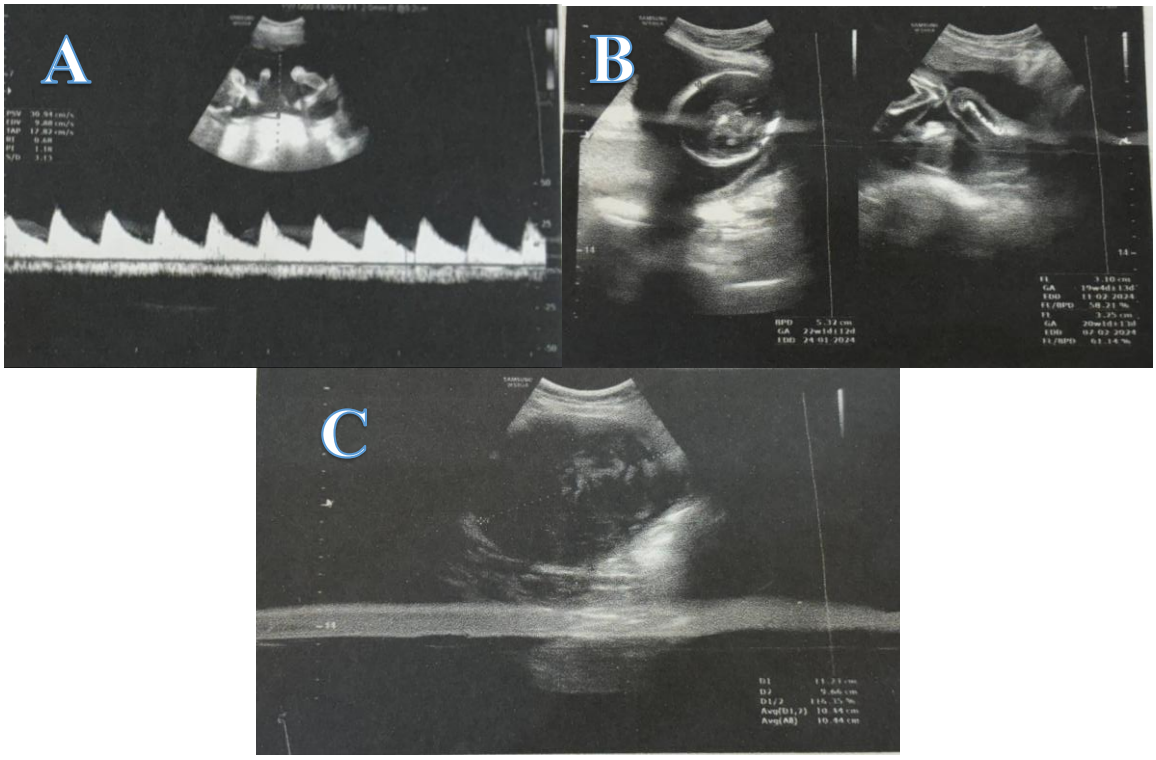

Figure 1-A,B and C: Doppler ultrasound showing gravid uterus occupied by single viable fetus, longitudinal lie, breech presentation, also showing large sub-serous fibroid measuring (11 x 9.6 cm) seen related to the RT fundo-lateral wall, showing scanty vascularity in color doppler attenuated centrally.

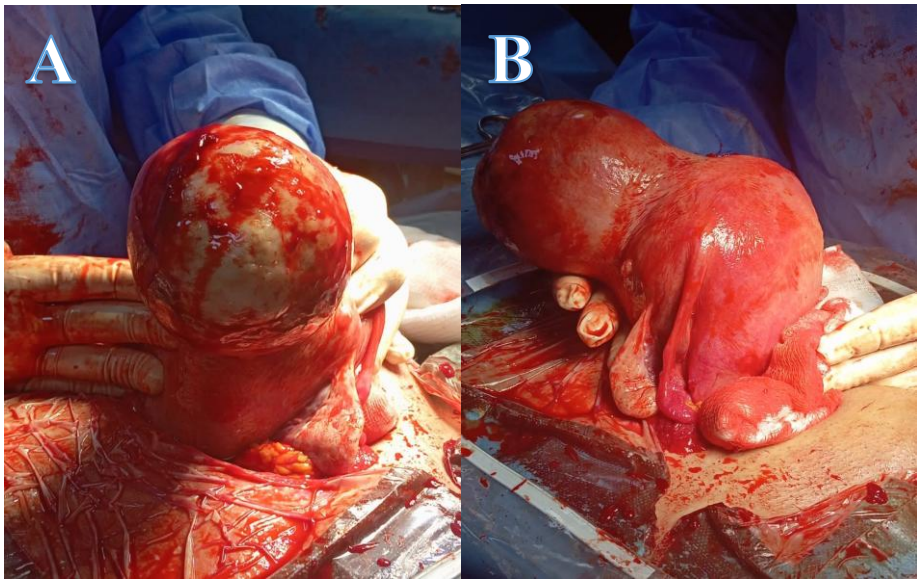

Figure 2:A Intra-operative posterior view of fibroid attaching to the right fundo-lateral wall, 11 x 10 cm in size with multiple omental and bowel adhesions. Figure 2 B : Intra-operative lateral view of fibroid attaching to the right fundo-lateral wall, 11 x 10 cm in size with multiple omental and bowel adhesions

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Table 1. The operative period

Time elapse post-surgery	Events and patient follow-up	Interventions done
Post Operative Day 0	The vital signs chart showed that the patient was vitally stable, 3 hours post-surgery, and the drain was filled with 500 ml of blood.	1- A pint of whole blood was given
Post Operative Day 1	Vitally, the case was stable The drain was filled with 500 ml of blood	1 pint of whole blood was given 1000 mg of tranexamic acid was prescribed every 8 hours 2 units of fish-frozen plasma were transferred
Post Operative Day 2	The case was stable vitally The drain bag was empty	Was under observation, no intervention was done
Post Operative Day 3	The drain was empty too	The decision was made to remove it The patient was discharged home
Post Operative Day 10 (Follow-up visit)	The wound healing was good, the ultrasound showed that everything was normal (Fig. 3)	The thread was removed. Elective myomectomy was scheduled 6 months later.

Figure 3. Ultrasound imaging study showing the sub-serosal leiomyoma done two weeks post-operation.

Discussion

Uterine fibroid coexisting with pregnancy is becoming more common in clinical obstetric practice, due to the demographic shift towards the delayed childbearing, the increased rate of obesity, and many pregnancies occur after fibroid treatment [5]. Uterine fibroids' size and location could have an impact on the pregnancy and delivery process. It is usually asymptomatic in pregnancy that could be discovered incidentally, making the first line of management is conservative. However, it may present with complications, need individualized patient care for optimal results [6, 7].

A large fibroid may be problematic because it is vascularized, which could take over the blood required for the vascularization of the uterus and fetal growth. In Navid S et al. study, 3 cases presented with an absence of fetal cardiac activity in the first trimester, possibly caused by large fibroids that had sizes of 8–10 cm, also giant fibroids could result in fetal malformations, such as limb reduction deficits, dolichocephaly and torticollis. However, other data showed that leiomyomas don't tend to limit fetal growth during pregnancy [8].

Santos et al., discuss a case of early pregnancy myomectomy presented with complication (moderate vaginal bleeding and pelvic pain), it was prolapsed, pedunculated leiomyoma, measuring 4 cm×6 cm that had to be managed surgically by myomectomy [9]. While Joseph R. et al., discuss the imaging modalities that are safe and effective in the diagnosis of fibroids in pregnant ladies who presented with severe acute abdominal pain during their 2nd trimester. By using MRI, a diagnosis of fibroid torsion was made, and then an uncomplicated laparoscopic myomectomy of an ischemic-appearing fibroid on a twisted pedicle was done [10].

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Previous studies using ultrasound for following fibroid size have shown that the mass size would not increase more than 10% during the pregnancy period, meaning it would remain stable [11], which was evidenced in this case, the mass did not change in size. The patient wasn't complaining, and she had no complications. The patient didn't require any surgical intervention during pregnancy, even did she need any medical treatment.

Myomectomy simultaneously during the cesarean section is still controversial [2]. Because of high risk of complications, obstetricians usually avoid cesarean myomectomy unless they are pedunculated and small in size [12], there are many complications (intrapartum, short-term and postpartum) especially uncontrolled hemorrhage, also resecting a large fibroid during CS has been considered as a risk for uterine rupture in the following pregnancy preferring post pone myomectomy during cesarean section and schedule an elective myomectomy before the next pregnancy.

Cesarean myomectomy should be avoided in patients who have additional risk factors that are associated with increased blood loss in women with uterine leiomyoma, including a larger size of the leiomyoma (≥5 cm) [13].

In this case, due to the large mass size and the presence of multiple bowel and omental adhesions, increasing the intraoperative risk of hemorrhage, the decision was to delay fibroid resection for a few months after cesarean section. Bleeding in this mass was severe due to the presence of multiple adhesions; we noticed that exteriorization of the uterus was a possible risk factor for intraoperative bleeding. Several interventions have been proposed for hemorrhage control from a fibroid during cesarean section, including the use of countermeasures such as transfusion of 2 units of fresh frozen plasma and a period of compression intraoperatively, and the use of tranexamic acid 1000 mg every 8 hours postoperatively has been implicated in bleeding control.

Conclusion

Uterine leiomyoma in pregnancy is usually asymptomatic; it could pass smoothly throughout pregnancy, and thus, the first line of management is conservative. However, caesarean myomectomy in the presence of complications should be avoided, such as multiple adhesions, and severe intraoperative bleeding, especially in large mass size as was obtained in this case report. We notice that uterine exteriorization increases the severity of bleeding, and it could be a risk factor for severe bleeding; further studies are recommended.

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