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Case Report

A case report on large uterine fibroids in pregnancy with successful caesarean myomectomy

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ABSTRACT

Uterine fibroids are benign tumors that commonly affect the female reproductive system. They are observed in approximately 0.1% to 10.7% of pregnancies, with their frequency increasing as maternal age advances. Although many pregnancies with fibroids progress without issues, complications can occur in about 10% to 40% of cases. These may include pelvic or abdominal discomfort, pregnancy loss, intrauterine growth restriction, abnormal fetal positioning, premature birth, placental abruption, prelabour rupture of membranes, increased likelihood of caesarean section, postpartum hemorrhage. Here we present a case of 30 years old primigravida with fibroid complicating pregnancy who had preterm delivery at 34+3 weeks. She was on regular antenatal follow up. On early pregnancy scan she was found to have multiple fibroid uterus with largest in the left adnexa-subserosal pedunculated. She had multiple Inpatient admissions for pelvic pain during her second and third trimester. She was admitted in view of preterm labour and undergone emergency lower segment caesarean section in view of multiple fibroid complicating pregnancy with cervical dystocia. Intraoperatively-multiple fibroid uterus. Caesarean myomectomy done. Postoperative period uneventful.

Keywords: Uterine fibroids, Postpartum hemorrhage, Caesarean section

INTRODUCTION

Uterine fibroids are the most frequently occurring benign tumors in the female reproductive system. The likelihood of developing fibroids tends to rise with maternal age, with the highest occurrence seen in women aged 35 to 49 years. Typically, fibroids measuring less than 5 cm in diameter either stay the same size or shrink during pregnancy, whereas those larger than 5 cm are more likely to increase in size.[2] Fibroids generally do not disrupt the course of pregnancy.

However, in some cases-especially with submucosal fibroids-they may contribute to infertility or pregnancy loss. The likelihood of complications increases depending on the size, number, and location of the fibroids. Cervical and anterior wall fibroids, for example, may cause pressure-related symptoms such as urinary retention. Additionally, fibroids located in the pouch of Douglas can lead to constipation due to rectal compression. Research suggests that approximately 60–80% of fibroids do not undergo significant changes in size during pregnancy. Among those fibroids which increase in pregnancy maximum increase occurs in first trimester and that in the first 10 weeks of gestation.[3] About 10 to 30% of fibroids will develop complications during pregnancy such as red degeneration, placental abruption, antepartum haemorrhage (APH), acute abdomen, preterm labour, malposition of the fetus, retained placenta, dysfunctional labour, postpartum haemorrhage (PPH), need for caesarean section and intrauterine growth restriction (FGR).

These complications are more commonly observed in large, multiple, and submucosal fibroids. The intense pain associated with red degeneration of fibroids is believed to result from rapid fibroid growth during pregnancy, alters the vascular architecture supplying the fibroid, leading to ischemia and subsequent necrosis. Cellular breakdown within the fibroid can trigger the release of prostaglandins,

which also contributes to pain. The impact of fibroids on pregnancy is most significantly influenced by their size.[4] More recent evidence suggests that fibroid growth follows a nonlinear pattern, with the most significant enlargement typically occurring in the first trimester. This early growth is likely associated with the rapid rise in human chorionic gonadotropin (HCG) levels. On average, fibroid volume increases by approximately 12% during pregnancy, while only a small percentage of cases experience growth exceeding 25%.[5] The majority of fibroids show no change during the puerperium, although 7.8% will decrease in volume by up to10%.

CASE REPORT

A 30years old primigravida booked with us from 6 weeks of gestation. She was on regular antenatal follow up. On early pregnancy scan she was found to have multiple fibroid uterus with largest in the left adnexa- subserosal pedunculated 8.42×8.76×13.42 cm, and multiple intramural fibroids of 7 number and size measuring ranges from 2 cm to 8 cm. At 11 weeks patient presented with acute abdomen because of red degeneration of fibroids for which she was treated conservatively. NT scan normal, double markers normal. At 15 weeks she was readmitted with complaints of abdominal pain for which she was managed conservatively with antibiotics and anti-inflammatory. MRI mapping of fibroids done to rule out torsion of subserous fibroid. Anomaly scan done showed no gross anomalies.

Two more admissions at 16 weeks and 25 weeks for similar complaints. Interval growth scan at 30+2 weeks showed breech, placenta-anterior AFI- 12.8, EFW-1.59 kg. Steroid prophylaxis was given 33+3 weeks. She was admitted in view of preterm labour at 34 weeks. Patient had undergone emergency lower segment caesarean section in view of multiple fibroid complicating pregnancy with cervical dystocia. Intraoperatively-multiple fibroids with largest 13×8 cm in left posterolateral wall of uterus-FIGO-7 and 8×5 cm in left fundal region (FIGO-6). Multiple fibroids 3x×3cm and 2×2 cm (FIGO 6) seen over fundal and anterior wall of uterus. She delivered male baby, birth weight-2.28 kg, with good Apgar.

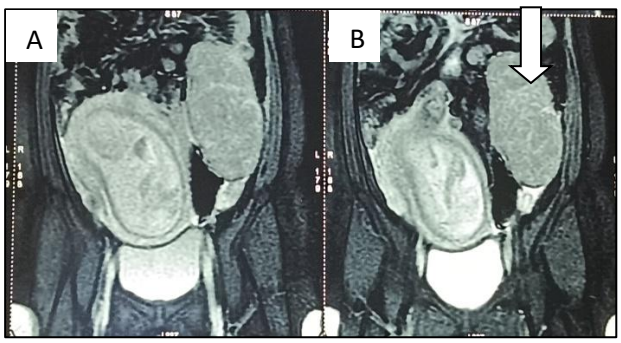

Figure 1: MRI image of multiple fibroids at 16 weeks, Arrow mark shows a large pedunculated subserosal fibroid.

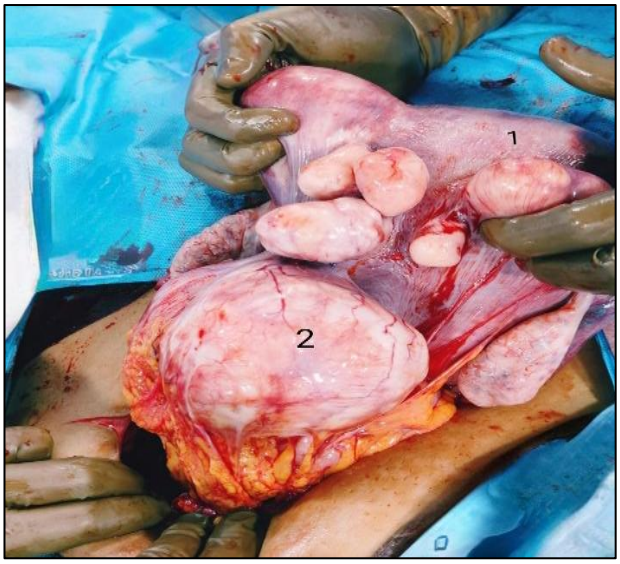

Figure 2: Intra-op image of multiple fibroid uterus, (1) uterus, (2) large fibroid getting its blood supply from omentum.

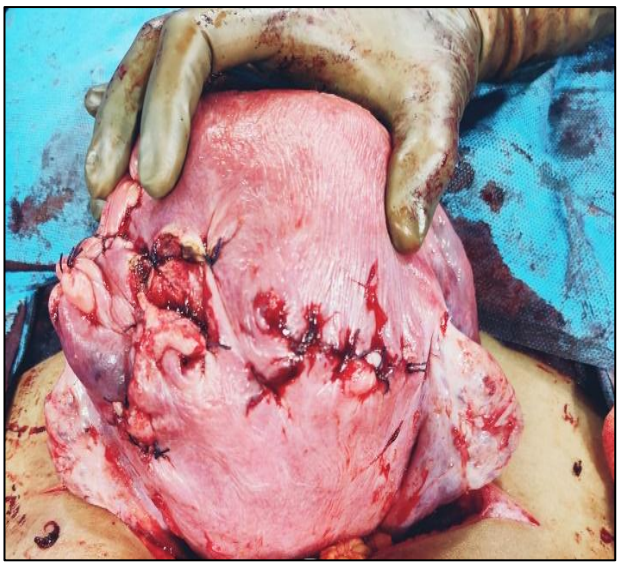

Figure 3: Posterior surface of uterus post myomectomy.

Figure 4: Caesarean myomectomy specimen.

Figure 3: Post caesarean myomectomy ultrasound.

Uterine atony encountered managed with uterotonics. Caesarean myomectomy done. Timing of surgery 100 mins. Preop Hb-10.8, blood loss-1.5 litres (Atonic PPH+ myomectomy blood loss). Postoperatively 2 units of PRBC transfusion done. Immediate postnatal period uneventful, discharged at POD-5. Wound healing within normal limits. On 3 months postpartum follow up ultrasound pelvis done, uterus remodelled and measured size of 9.2×5.3×6.3 cm with no visible fibroids.

DISCUSSION

During pregnancy, most fibroids either remain stable in size or decrease, although around 30% may enlarge, particularly during the first trimester. The case discussed above involves a rapidly growing fibroid observed in the first and early second trimesters, during which the patient presented twice with acute abdominal pain. While fibroids are usually asymptomatic, complications during pregnancy can lead to significant discomfort, with pain being the most commonly reported symptom-especially in cases involving fibroids larger than 5 cm during the second or third trimester. Acute or localized abdominal pain may result from red degeneration, torsion (especially in pedunculated subserosal fibroids), or impaction. Additionally, the presence of uterine fibroids is associated with an increased risk of pregnancy-related complications such as miscarriage, preterm labor, abnormal fetal positioning, obstructed labor, cesarean delivery, postpartum hemorrhage, and in rare cases, the necessity for hysterectomy.[1]

Pain is the most frequently encountered complication of fibroids during pregnancy. In the majority of cases, it can be effectively managed with conservative treatment; however, surgical intervention may be necessary in rare instances. In the case described above, pain management initially involved paracetamol and tramadol, but due to insufficient relief, indomethacin was introduced. The patient's symptoms resolved within 2–3 days of starting indomethacin.[2]

Among the various types of uterine fibroids, intramural fibroids are the most commonly observed. Pregnant women with fibroids face an elevated risk of complications such as placenta previa and placental abruption. Specific risk factors for placental abruption include submucosal fibroids, retroplacental fibroids, and fibroid volumes exceeding 200 cm^3. One proposed mechanism involves reduced blood flow to both the fibroid and adjacent uterine tissues, leading to partial ischemia and decidual necrosis in the placental area overlaying the fibroid. Additionally, the risk of preterm labor is higher in women with fibroids compared to those without, particularly in cases involving multiple fibroids or when the fibroid is in contact with the placenta.[4] In the above case preterm labour occurred at 34 weeks. Labour and delivery can be more challenging in the presence of fetal malpresentation or malposition, which are often associated with uterine distortion caused by fibroids. Risk factors for malpresentation include large fibroids, multiple fibroids, and those located in the lower uterine segment. Women with uterine fibroids are also at increased risk of retained placenta. Additionally, fibroids can lead to dysfunctional labour due to altered uterine anatomy and impaired myometrial contractility. Similar dystocia noticed in our case during Trial of labour. Consequently, these patients are more likely to require uterotonic agents to stimulate adequate contractions and facilitate the progression of labour.[4] In a 2014 study conducted in Australia, Lam et al categorized uterine fibroids into three groups based on size: 4–7 cm, 7–10 cm, and greater than 10 cm. Their findings indicated that fibroids larger than 4 cm were associated with a higher risk of postpartum hemorrhage (PPH) and increased average blood loss. Additionally, fibroids exceeding 7 cm were more commonly linked to hospital admissions due to leiomyoma-related pain. Similarly, a retrospective cohort study by Sei et al. in Japan reported that in primigravida, the presence of a fibroid with a volume under 175 cm^3 (approximately the size of a 7 cm sphere), combined with a birth weight below 2500 grams, was a predictor of significant intraoperative bleeding during cesarean delivery.[5] Consequently, it was recommended that preparations for potential heavy bleeding, including autologous blood storage, should be considered in such cases. In our case volume of all the fibroids in total is around 590 cm^3.

Degenerating submucosal fibroids may contribute to chronic inflammation or infection, which in turn can stimulate the release of cytokines. This inflammatory response could potentially increase the risk of preterm birth.[6] Earlier research has suggested that myomectomy should generally be avoided during cesarean section (CS), except for small pedunculated fibroids. Some researchers have raised concerns about the potential risks, such as uterine atony and heavy bleeding, which could lead to hysterectomy and future fertility issues. However, recent studies have challenged this view, suggesting that combining CS with myomectomy can be a safe procedure. One study by Kwawukume did myomectomy in 12 patients, reporting no complications.

The average surgical time was 62.08 minutes, with 85% of the fibroids being intramural, located within the uterine wall. There was no significant difference in intra- and postoperative complications, including blood loss, between CS alone and CS with myomectomy when a tourniquet was used. Other studies on caesarean myomectomy have also shown no notable differences in intraoperative blood loss, postoperative fever, surgery duration, or hospital stay length. No patients required hysterectomy or embolization, and the size of the fibroid did not impact the outcomes. Caesarean myomectomy can be safely performed in majority of patients with myomas without any serious or life-threatening complication under experienced hands. Depending on the size and location of myomas, a detailed discussion should be undertaken with the patients regarding the associated risks which are similar to those of CS surgery.[9]

Hysterectomy may be considered for women who do not wish to retain fertility and experience significant symptoms such as heavy bleeding, persistent pelvic pain or pressure, or anemia that does not respond to iron therapy.

CONCLUSION

While fibroids are often asymptomatic during pregnancy, their presence can still impact maternal and fetal outcomes depending on their size, number, and location. Interestingly, fibroids may follow a characteristic "triphasic" growth pattern during pregnancy. This includes an initial phase of enlargement during the first trimester, followed by a period of slowed growth or stabilization in the second trimester, and finally, a phase of shrinkage during late pregnancy and the postpartum period. Notably, there is substantial evidence supporting consistent fibroid growth during the first trimester.

The presence of fibroids during pregnancy is linked to a modestly elevated risk of complications such as placenta previa, abnormal fetal positioning, and restricted fetal growth, caesarean delivery, preterm labor. Ongoing antenatal surveillance, including regular assessment and detailed mapping of fibroids, is essential for reducing the likelihood of these adverse maternal and fetal outcomes. caesarean myomectomy is a safe and feasible surgical intervention if there is a team with sufficient experience. It can be a complete solution for the patients who were symptomatic with large fibroids and can avoid future gynec issues, need for separate surgery later.

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