

Navigating Pregnancy With Uterine Fibroids: A Case Study

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Dharmesh J. Patel ¹, Kamlesh Chaudhari ¹, Neema Acharya ¹, Deepti Shrivastava ¹, Apoorva Dave ¹, Archan Patel ¹

¹. Department of Obstetrics and Gynaecology, Jawaharlal Nehru Medical College, Datta Meghe Institute of Higher Education and Research, Wardha, IND

Corresponding author: Dharmesh J. Patel, dharmesh1303@gmail.com

Abstract

Benign uterine tumors, known as leiomyomas or uterine fibroids, can result in severe pain, bleeding, and infertility. They impact a woman's overall well-being, ability to conceive, and the course of her pregnancy. Fibroids are associated with increasing maternal age. When a patient with fibroids is considering pregnancy, ultrasonography and a detailed pelvic examination should be performed to determine the size and location of any fibroids. This case study details a 30-year-old female patient who had fibroids during her pregnancy and responded well to treatment.

Categories: Obstetrics/Gynecology, Pain Management, Radiology

Keywords: obstetric ultrasound, reproductive health, obstetric outcomes, pregnancy complications, uterine fibroids

Introduction

Fibroids, also known as leiomyomas, are the most frequent pelvic tumors during pregnancy, with a prevalence of 10.7% in the first trimester [1,2]. Fibroids can affect a woman's daily activities if she becomes symptomatic during pregnancy and can also impact her fertility and obstetric outcomes. Among women of reproductive age, 35-77% are affected by fibroids. Despite the high prevalence, many fibroids remain asymptomatic during reproductive years. As women age, particularly around 50 years old, the prevalence increases to 70-80%, often accompanied by symptoms [3,4]. In 5-10% of fertile patients, fibroids are present, but only 1-2% of infertility cases are attributable to fibroids [5,6]. Fibroids can cause infertility by obstructing the fallopian tubes and preventing oocyte migration, often due to deformities in the uterine cavity that result in hormonal imbalances, altered endometrial receptivity, and impaired endometrial development [7,8].

Pregnancy-induced fibroids were noted in 0.07-10.7% of all pregnancies. According to a study by De Vivo et al., 66.6% of fibroids increase in size during the third trimester, and 71.4% increase in size during the first and second trimesters [9].

Women over 30 years of age who become pregnant for the first time have a higher chance of developing fibroids during pregnancy compared to multiparous women. While most fibroids do not cause complications during pregnancy, they can sometimes lead to severe pain, discomfort, and bleeding. Studies suggest that after delivery, fibroid size decreases significantly, with one study showing a decrease in fibroid size in 72% of women postpartum. During the puerperal period of six months, fibroid volume can decrease by 50% [10,11]. Here, we present a unique case of a 30-year-old woman who complained of an abdominal lump and pain during the first trimester. An ultrasonography revealed a uterine fibroid during her pregnancy.

Case Presentation

A 30-year-old G2P1 female presented to the Obstetrics and Gynecology Department with the chief complaint of lower abdominal pain for the past six days and a palpable mass. The patient had normal menstrual cycles with mild dysmenorrhea. Upon examination, the patient showed no signs of pedal edema, appeared clinically pale, was afebrile, and exhibited no respiratory distress. Her pulse rate was 90/min, and her blood pressure was 100/60 mmHg. Her respiration rate was 17 cycles per minute. A hard, non-tender lump was palpable in the lower left abdomen. Per speculum examination, the vagina and cervix appeared to be in good health. Compared to the projected gestational age, the uterus was larger. On bimanual examination, the os was 2 cm dilated, 25% effaced, and the cervix was soft.

A single intrauterine pregnancy at 18 weeks was confirmed by ultrasound, showing a well-defined iso-echogenic lesion in the uterus, measuring 10 cm with a cystic area, indicative of a fibroid with cystic degeneration. The endometrium measured 5 mm thick. The patient was recommended to have routine ultrasound follow-ups to track the fibroid's growth and the development of the fetus. She was prescribed acetaminophen for pain relief, with instructions to avoid nonsteroidal anti-inflammatory drugs (NSAIDs) due to their potential adverse effects on the fetus. Standard prenatal care was provided, with additional

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monitoring for signs of preterm labor and placental abruption.

At 24 weeks' gestation, an ultrasound showed a well-defined iso-echogenic lesion in the uterus, measuring 11.5 x 8.8 x 6.3 cm, with a cystic area, consistent with a fibroid with cystic degeneration (Figure 1).

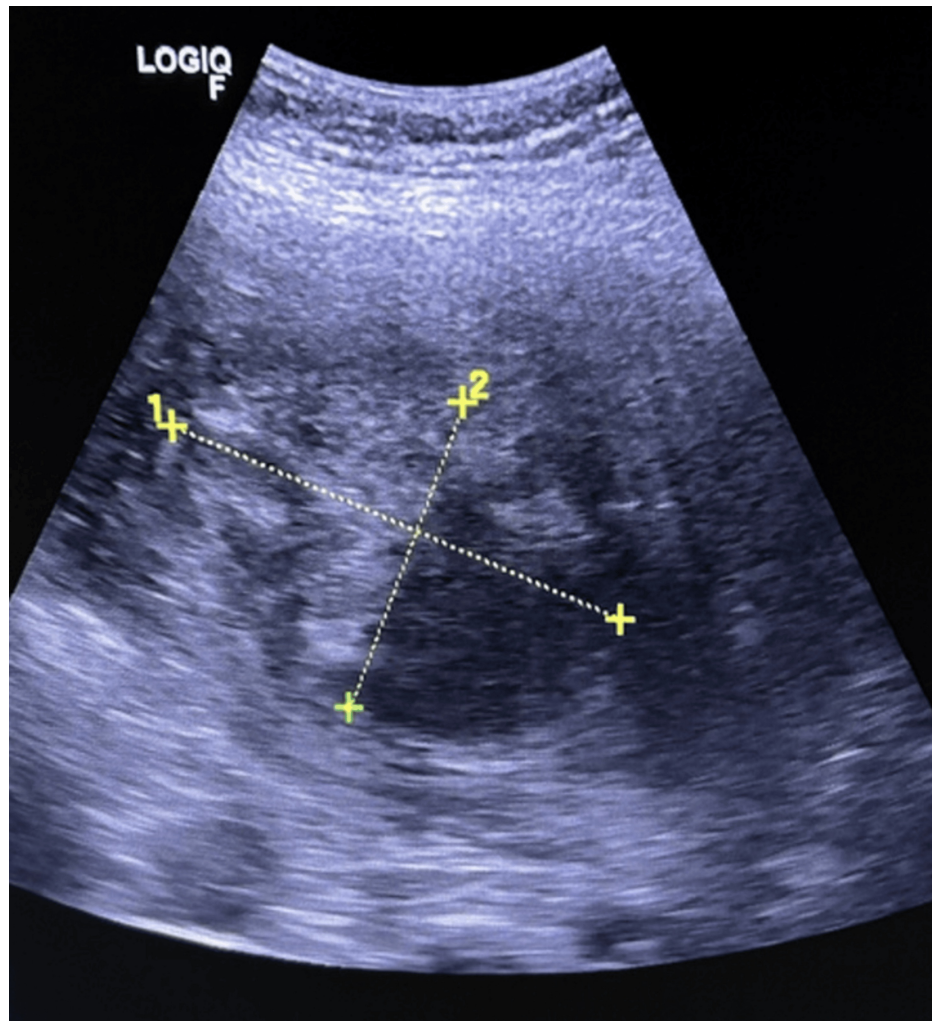


FIGURE 1: Grey-scale ultrasound image showing a well-defined iso-echogenic lesion in the uterus, measuring 11.5 x 8.8 x 6.3 cm, with a cystic area within, suggestive of a fibroid with cystic degeneration

The patient experienced intermittent pain and was managed with acetaminophen. During a follow-up at 32 weeks' gestation, the patient reported an increased frequency of pain episodes. The fetus was in cephalic presentation with normal growth parameters. Conservative pain management was continued, and it was planned to deliver the baby by C-section at 38 weeks' gestation to prevent potential complications, such as obstructed labor or emergency cesarean section. The mother and baby had an uneventful recovery. The intramural fibroid was noted during the C-section (Figure 2) but was not removed due to the high risk of hemorrhage. At the six-week postpartum follow-up, the patient was asymptomatic, and the uterus had been involuted appropriately.

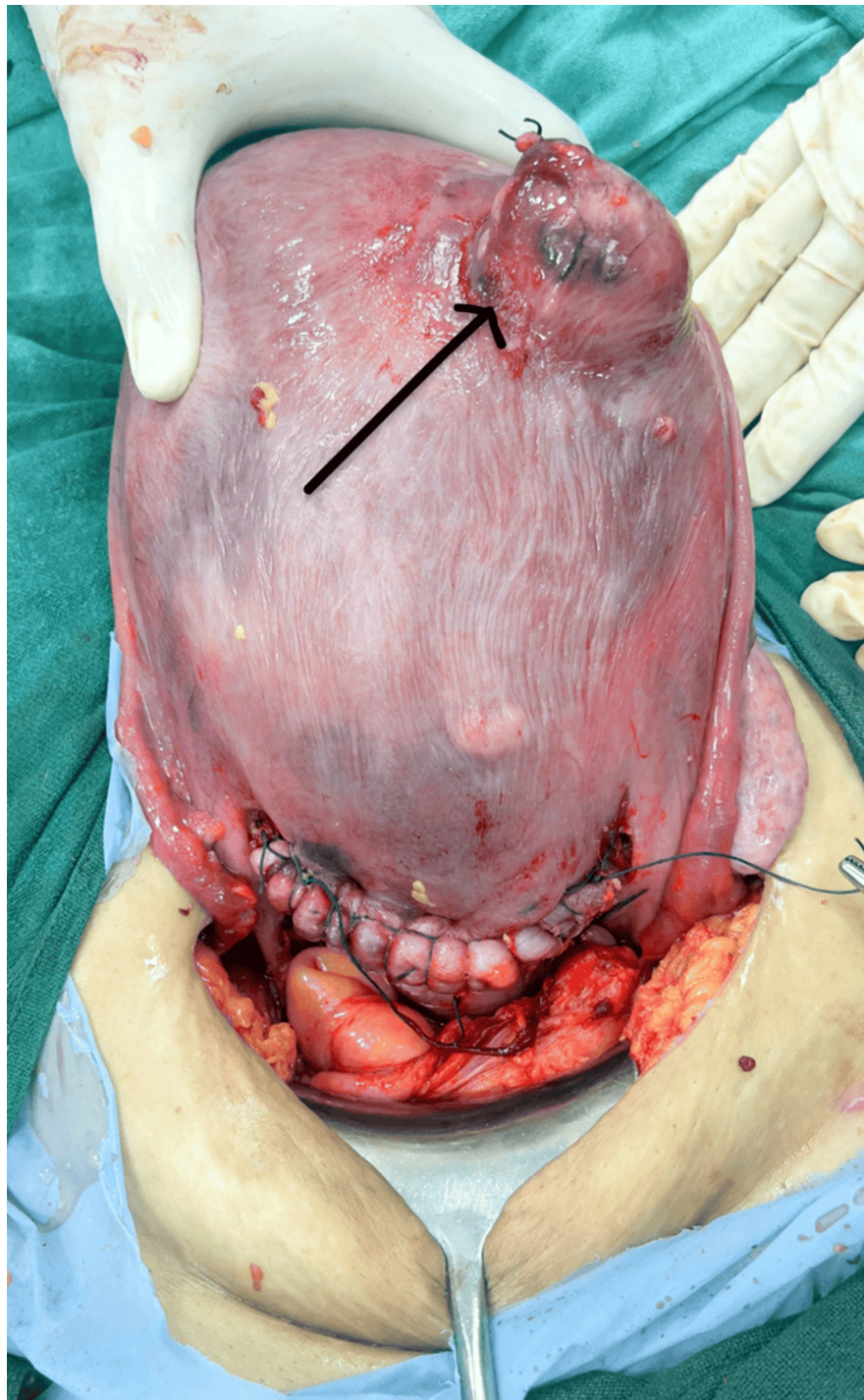


FIGURE 2: Intramural fibroid (black arrow) noted during lower section cesarean section

Discussion

The interaction between fibroids and pregnancy is a critical concern for obstetricians due to the potential complications that may arise. This discussion will explore the impact of fibroids on pregnancy, potential complications, management strategies, and outcomes.

Due to the delay in childbearing, which is increasingly common for various reasons, the frequency of uterine fibroids during pregnancy is expected to rise globally [12,13]. Because of poor health-seeking behaviors, social and financial constraints, and anxiety about surgery, women often delay seeking treatment [14,15]. Large or numerous uterine fibroids increase the probability of complications during pregnancy in women who delay seeking treatment [16,17].

Impact of fibroids on pregnancy

Fibroids can influence pregnancy in various ways depending on their number, location, and size within the uterus. They can be classified based on their location as subserosal, intramural, submucosal, and pedunculated.

In most cases, fibroids do not cause any symptoms during pregnancy, meaning they remain asymptomatic and do not interfere with the pregnancy outcome. However, in some instances, they can complicate the pregnancy. Abdominal pain, preterm labor, and postpartum hemorrhage are commonly seen during pregnancy, compared to other signs and symptoms. Other complications include obstructed labor, miscarriages, malposition and malpresentation, and intrauterine growth restriction (Table 1). Fibroids also increase the rate of cesarean sections. Some of these pregnancy complications may necessitate abandoning the standard cautious approach to managing uterine fibroids during pregnancy [18].

Maternal	Fetal
Pain and discomfort	Miscarriage
Abruptio placenta	Preterm birth
Postpartum hemorrhage	Intrauterine growth restriction (IUGR)
Obstructed labor	Malpresentation
Preterm labor	-
Cesarean delivery	-

TABLE 1: Complications associated with uterine fibroid related to pregnancy

In our case, the fibroid enlarged during the third trimester. However, one study found that, in 107 women, fibroid size decreased in the postpartum period, while in 72 women, fibroid size remained the same. There is a higher chance of developing fibroids in the first trimester than in the third trimester.

Cervical fibroids can enlarge during pregnancy and grow towards the uterus. They can cause obstructed labor, preterm labor, antepartum hemorrhage, and sometimes abortion [19-21]. Emergency intervention is required if such situations occur.

Management strategies

The management of fibroids in pregnancy requires a balanced approach to minimize risks to both the mother and the fetus.

Expectant Management

Most cases are managed conservatively with regular monitoring using ultrasound to assess the growth of fibroids and any impact on the pregnancy.

Medication

Analgesics are used for pain management, and in some cases, medications are prescribed to manage symptoms like heavy bleeding.

Surgical Intervention

Myomectomy (surgical removal of fibroids) is generally avoided during pregnancy due to the high risk of complications. However, it may be considered in severe cases with significant symptoms or complications.

Outcomes

The presence of fibroids in pregnancy does not universally predict poor outcomes. Many women with fibroids have uneventful pregnancies and deliver healthy babies. The outcomes largely depend on the size, number, and location of the fibroids, as well as the presence of any associated complications.

Successful Pregnancy



With careful monitoring and appropriate management, many pregnancies proceed to full term with successful outcomes.

Preterm Delivery

Increased surveillance and interventions can help manage preterm labor effectively.

Delivery Method

Vaginal delivery is possible in many cases, but the rate of cesarean sections is higher in women with fibroids due to complications, such as obstructed labor or malpresentation.

In our clinical practice, we frequently encounter patients with large or symptomatic uterine fibroids during pregnancy. We have decided to share our experiences, noting that, while cesarean myomectomy was not necessary for our patient, it remains an option in cases where complications arise.

Conclusions

We reported a unique case of fibroids during pregnancy that caused symptoms in the patient. The patient received successful care and treatment. Obstetricians and gynecologists must handle uterine fibroids with appropriate attention, taking obstetrical outcomes and pregnancy rates seriously. Individual patient preferences, such as the desire to bear children in the future, should be considered when choosing a course of treatment. Important factors to examine include the number, location, and size of fibroids. The key lies in early detection, regular monitoring, and timely intervention when necessary.

Additional Information

Author Contributions

All authors have reviewed the final version to be published and agreed to be accountable for all aspects of the work.

Concept and design: Dharmesh J. Patel, Kamlesh Chaudhari, Deepti Shrivastava, Archan Patel, Neema Acharya, Apoorva Dave

Acquisition, analysis, or interpretation of data: Dharmesh J. Patel, Kamlesh Chaudhari, Deepti Shrivastava, Archan Patel, Neema Acharya, Apoorva Dave

Drafting of the manuscript: Dharmesh J. Patel, Kamlesh Chaudhari, Deepti Shrivastava, Archan Patel, Neema Acharya, Apoorva Dave

Critical review of the manuscript for important intellectual content: Dharmesh J. Patel, Kamlesh Chaudhari, Deepti Shrivastava, Archan Patel, Neema Acharya, Apoorva Dave

Supervision: Dharmesh J. Patel, Kamlesh Chaudhari, Deepti Shrivastava, Archan Patel, Apoorva Dave

Disclosures

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References

- Laughlin SK, Baird DD, Savitz DA, Herring AH, Hartmann KE: Prevalence of uterine leiomyomas in the first trimester of pregnancy: an ultrasound-screening study. *Obstet Gynecol.* 2009, 113:630-5. [10.1097/AOG.0b013e318197bbaf](https://doi.org/10.1097/AOG.0b013e318197bbaf)
- Stout MJ, Odibo AO, Graseck AS, Macones GA, Crane JP, Cahill AG: Leiomyomas at routine second-trimester ultrasound examination and adverse obstetric outcomes. *Obstet Gynecol.* 2010, 116:1056-63. [10.1097/AOG.0b013e3181f7496d](https://doi.org/10.1097/AOG.0b013e3181f7496d)
- Ezzati M, Norian JM, Segars JH: Management of uterine fibroids in the patient pursuing assisted reproductive technologies. *Womens Health (Lond).* 2009, 5:413-21. [10.2217/whe.09.29](https://doi.org/10.2217/whe.09.29)
- Baird DD, Dunson DB, Hill MC, Cousins D, Schectman JM: High cumulative incidence of uterine leiomyoma in black and white women: ultrasound evidence. *Am J Obstet Gynecol.* 2003, 188:100-7. [10.1067/mob.2003.99](https://doi.org/10.1067/mob.2003.99)



5. Cook H, Ezzati M, Segars JH, McCarthy K: The impact of uterine leiomyomas on reproductive outcomes . *Minerva Gynecol.* 2010, 62:225-36.
6. Donnez J, Jadoul P: What are the implications of myomas on fertility? A need for a debate . *Hum Reprod.* 2002, 17:1424-30. [10.1093/humrep/17.6.1424](https://doi.org/10.1093/humrep/17.6.1424)
7. Rackow BW, Taylor HS: Submucosal uterine leiomyomas have a global effect on molecular determinants of endometrial receptivity. *Fertil Steril.* 2010, 93:2027-34. [10.1016/j.fertnstert.2008.03.029](https://doi.org/10.1016/j.fertnstert.2008.03.029)
8. Sinclair DC, Mastroyannis A, Taylor HS: Leiomyoma simultaneously impair endometrial BMP-2-mediated decidualization and anticoagulant expression through secretion of TGF- β 3. *J Clin Endocrinol Metab.* 2011, 96:412-21. [10.1210/jc.2010-1450](https://doi.org/10.1210/jc.2010-1450)
9. De Vivo A, Mancuso A, Giacobbe A, et al.: Uterine myomas during pregnancy: a longitudinal sonographic study. *Ultrasound Obstet Gynecol.* 2011, 37:361-5. [10.1002/uog.8826](https://doi.org/10.1002/uog.8826)
10. Qidwai GI, Caughey AB, Jacoby AF: Obstetric outcomes in women with sonographically identified uterine leiomyomata. *Obstet Gynecol.* 2006, 107:376-82. [10.1097/01.AOG.0000196806.25897.7c](https://doi.org/10.1097/01.AOG.0000196806.25897.7c)
11. Guo XC, Segars JH: The impact and management of fibroids for fertility: an evidence-based approach . *Obstet Gynecol Clin North Am.* 2012, 39:521-33. [10.1016/j.ogc.2012.09.005](https://doi.org/10.1016/j.ogc.2012.09.005)
12. Abam DS, Kasso T: Uterine fibroids and pregnancy: a review of the challenges . *Obstetrics.* Abduljabber HS (ed): IntechOpen, London, UK; 2017. [10.5772/intechopen.71761](https://doi.org/10.5772/intechopen.71761)
13. Milazzo GN, Catalano A, Badia V, Mallozzi M, Caserta D: Myoma and myomectomy: poor evidence concern in pregnancy. *J Obstet Gynaecol Res.* 2017, 43:1789-804. [10.1111/jog.13437](https://doi.org/10.1111/jog.13437)
14. Adegbesan-Omilabu MA, Okunade KS, Gbadegesin A: Knowledge of, perception of, and attitude towards uterine Fibroids among women with fibroids in Lagos, Nigeria. *Scientifica (Cairo).* 2014, 2014:809536.
15. Ciavattini A, Clemente N, Delli Carpini G, Di Giuseppe J, Giannubilo SR, Tranquilli AL: Number and size of uterine fibroids and obstetric outcomes. *J Matern Fetal Neonatal Med.* 2015, 28:484-8. [10.3109/14767058.2014.921675](https://doi.org/10.3109/14767058.2014.921675)
16. Deveer M, Deveer R, Engin-Ustun Y, Sarikaya E, Akbaba E, Senturk B, Danisman N: Comparison of pregnancy outcomes in different localizations of uterine fibroids. *Clin Exp Obstet Gynecol.* 2012, 39:516-8.
17. Lee HJ, Norwitz ER, Shaw J: Contemporary management of fibroids in pregnancy . *Rev Obstet Gynecol.* 2010, 3:20-7.
18. Mettler L, Schollmeyer T, Tinelli A, Malvasi A, Alkatout I: Complications of uterine fibroids and their management, surgical management of fibroids, laparoscopy and hysteroscopy versus hysterectomy, haemorrhage, adhesions, and complications. *Obstet Gynecol Int.* 2012, 2012:791248. [10.1155/2012/791248](https://doi.org/10.1155/2012/791248)
19. Neiger R, Sonek JD, Croom CS, Ventolini G: Pregnancy-related changes in the size of uterine leiomyomas . *J Reprod Med.* 2006, 51:671-4.
20. Hammoud AO, Asaad R, Berman J, Treadwell MC, Blackwell S, Diamond MP: Volume change of uterine myomas during pregnancy: do myomas really grow?. *J Minim Invasive Gynecol.* 2006, 13:386-90. [10.1016/j.jmig.2006.04.005](https://doi.org/10.1016/j.jmig.2006.04.005)
21. Rosati P, Exacoustòs C, Mancuso S: Longitudinal evaluation of uterine myoma growth during pregnancy. A sonographic study. *J Ultrasound Med.* 1992, 11:511-5. [10.7863/jum.1992.11.10.511](https://doi.org/10.7863/jum.1992.11.10.511)