

Outcome of Muroid Degeneration of Uterine Fibroid in elderly multigravid woman: A Case Report

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Abstract

Mucoid degeneration of uterine fibroids during pregnancy is a rare phenomenon that can pose significant challenges in management. Various form of degenerations may occur in fibroid but myxoid/mucoid denegation is not common. This case report presents a rare instance of Mucoid degeneration of a uterine fibroid in a 40-year-old woman with a history of subfertility. The objective of this report is to highlight the diagnosis and management challenges associated with Mucoid degeneration of fibroids during pregnancy, particularly in women with a history of subfertility. Degeneration may occur in pregnancy though rarest. So, if fibroid is diagnosed in pre- pregnant stage,

it must be needed careful monitoring & counselling of patient what happen in pregnancy and how to manage and what treatment modalities are available and what are the outcomes. A detailed case study of the patient's medical history, clinical presentation, diagnostic procedures, and treatment course is presented. Diagnostic findings, including ultrasound results and laboratory investigations, are discussed. The patient, Jesmin, presented with a history of seeking pregnancy for 4 years, severe dysmenorrhea, and hypothyroidism. Ultrasound revealed a bulky uterus with non-homogeneous myometrium and complex fibroid lesions. By ovulation inducing drug including medication for bacterial vaginosis, Jesmin became pregnant. However, a hypoechoic mass was noted in the posterior wall of the uterus. Cesarean section was performed, and a histopathological examination confirmed leiomyoma with mucoid degeneration. The patient recovered well postoperatively, and both mother and baby were discharged in good health. Mucoid degeneration of uterine fibroids in pregnancy, especially in women with subfertility, requires careful monitoring and management.

Keywords: *Mucoid Degeneration, uterine fibroids, pregnancy, subfertility*

Introduction

Uterine fibroids, benign tumors originating from the smooth muscle layer of the uterus, are common gynecological condition affecting women of reproductive age¹. While often asymptomatic, fibroids can present with various clinical manifestations depending on their size, location, and growth pattern. One uncommon yet clinically significant complication associated with uterine fibroids is mucoid degeneration, a rare pathological change

characterized by the accumulation of gelatinous material within the fibroid tissue². This degenerative process can lead to unique challenges in clinical management, especially in the context of pregnancy and subfertility. The significance of studying mucoid degeneration of uterine fibroids lies in its potential to complicate pregnancy outcomes and fertility treatments. Understanding this rare phenomenon is crucial for obstetricians, gynecologists, and fertility specialists who encounter patients with fibroids

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seeking conception or managing pregnancies. The case of a 40-year-old woman experiencing mucoid degeneration of uterine fibroids complicating both pregnancy and subfertility exemplifies the complexities and challenges posed by this condition.

Uterine fibroids are prevalent among women of reproductive age, with estimates suggesting that up to 70% of Caucasian women and 80% of African-American women may develop fibroids by the age of 50³. These tumors can vary in size from small nodules to large masses, and their clinical presentation ranges from asymptomatic to severe, depending on factors such as location within the uterus and proximity to other pelvic structures. Common symptoms include heavy menstrual bleeding, pelvic pain, urinary frequency, and constipation. While fibroids are generally benign, their impact on reproductive health can be profound.

Mucoid degeneration, although rare, represents a distinct pathological change within uterine fibroids that complicates their clinical management. This degenerative process involves the accumulation of a gelatinous substance within the fibroid tissue, altering its structural integrity and potentially exacerbating symptoms such as pain and pressure. The exact etiology of mucoid degeneration remains poorly understood, with theories implicating ischemic changes, hormonal influences, and genetic predispositions. In the context of pregnancy, fibroids can exert various effects depending on their size and location. Submucosal fibroids, which protrude into the uterine cavity, are associated with an increased risk of infertility, miscarriage, and adverse pregnancy outcomes⁴. Intramural and subserosal fibroids may impact fertility by distorting the uterine cavity or causing mechanical obstruction of the fallopian tubes. Additionally, fibroids can grow during pregnancy due to hormonal stimulation, potentially leading to complications such as pain, preterm labor, placental abruption, and cesarean delivery.

The case of a 40-year-old woman experiencing mucoid degeneration of uterine fibroids complicating pregnancy and subfertility underscores the clinical challenges posed by this condition. This patient presented with a history of subfertility, characterized by difficulty conceiving despite regular unprotected intercourse for over four years. Investigations revealed multiple uterine fibroids, with imaging studies

demonstrating features consistent with mucoid degeneration in one of the larger fibroids. The presence of mucoid degeneration raised concerns regarding its impact on fertility and the management of subsequent pregnancy. Managing fibroids in pregnant women poses unique challenges, especially in those with a history of subfertility. Fibroids can affect fertility by altering the shape of the uterus or obstructing the fallopian tubes. In pregnant women, fibroids can increase the risk of complications such as miscarriage, preterm birth, and placental abruption. Additionally, the presence of fibroids can make it difficult to monitor the fetus and may increase the likelihood of requiring a cesarean section⁵. This case report highlights the challenges faced in managing Mucoid degeneration of fibroids during pregnancy, particularly in women with subfertility and a history of fibroid uterus. The importance of early diagnosis, close monitoring, and appropriate management to ensure optimal outcomes for both the mother and the fetus. Understanding the complexities of managing fibroids in pregnancy is crucial for healthcare providers to provide comprehensive care to pregnant women with fibroids.

Case Presentation

Mrs. Jesmin 40 years old woman, married for 15 years, para-2, one vaginal delivery & one abortion. She was presented with the complaints of seeking pregnancy for four years, severe dysmenorrhea, and history of hypothyroidism on Levothyroxine therapy for 10 years. Her past medical history was significant for irregular menstrual cycles with average flow and 3–4-day duration. On physical examination her blood pressure was 120/80 mmHg, and she was found to be anemic. She weighed 66 kg. Pelvic examination revealed a bulky uterus.

Diagnostic tests were performed to evaluate Jesmin's fertility status and the cause of her symptoms. Ultrasonography, TVS revealed a bulky uterus measuring about 9.8 x 5.4 x 6.1 cm with non-homogeneous myometrium. Two ill-defined complex lesions, measuring about 1.0 cm and 3.0 cm in diameter, were noted in the anterior and posterior myometrium, suggestive of fibroids. A three-layer endometrial echo measuring about 6 mm was seen. The left ovarian parenchyma noted dominant follicles of about 26 mm and 22 mm in diameter.

Further investigations revealed Jesmin's FT4 level to be 16.11 mmol/ml, TSH level to be 0.51 uIU/ml, and

estradiol level to be 3.73 pg/ml. A cytology report indicated bacterial vaginosis. Conservative treatment was initiated for bacterial vaginosis, and Jesmin was advised to take Tab. Letrozole 2.5 mg from the 3rd day of her menstrual period to the next 5 days, orally for 3 months, along with HCG 5000

IU administered intramuscularly on the 12th day of her menstrual period with this, patient became pregnant, an estimated EDD date of 19-10-2023. The challenges Jesmin faced with muroid degeneration were more complex than those typically seen with other types of fibroid degeneration. Unlike common degenerations, muroid degeneration led to persistent pain, discomfort, and complications, including a breech presentation due to the fibroid's gelatinous buildup, which altered its structure and behavior⁶. This persistence clinical features required careful monitoring throughout pregnancy to manage risks that might not be as pronounced in other degeneration cases. The decision to perform a cesarean section was vital to avoid potential complications of vaginal delivery, ensuring a safer outcome. This approach highlights that while muroid degeneration may share symptoms with other types, its management demands distinct, proactive strategies to address its progressive and structural complications effectively.

Management and outcome

Jesmin's management primarily involved a combination of medical and surgical interventions. She was started conservative treatment for secondary

subfertility with vaginosis and prescribed Tab. Letrol 2.5 mg and HCG 5000 IU to improve her chances of conception. With these measures she became pregnant, with an estimated due date of 19-10-2023. During her pregnancy, Jesmin was closely monitored for any complications. However, a hypoechoic mass measuring was about 5.2 x 5.1 cm was noted in the posterior wall of her uterus. During pregnancy patient had complaints like abdominal pain, low back pain and also abdominal discomfort. Given the risk of complications associated with breech presentation with the fibroid, a decision was made to perform a cesarean section.

The cesarean section was performed successfully, and delivered a healthy baby. Both mother and baby were discharged in good health on 3rd postoperative day. Histopathological examination of the uterine tissue confirmed the presence of a leiomyoma with muroid degeneration, consistent with the findings of the ultrasound. Jesmin's recovery postoperatively was uneventful, and she was discharged with appropriate postoperative care in the hospital.

Overall, the management of Jesmin's case highlights the importance of early diagnosis and appropriate management of fibroids in pregnant women, especially those with a history of subfertility. Close monitoring and a multidisciplinary approach involving obstetricians, radiologists, and other healthcare providers are crucial in ensuring optimal outcomes for the mother and the fetus.

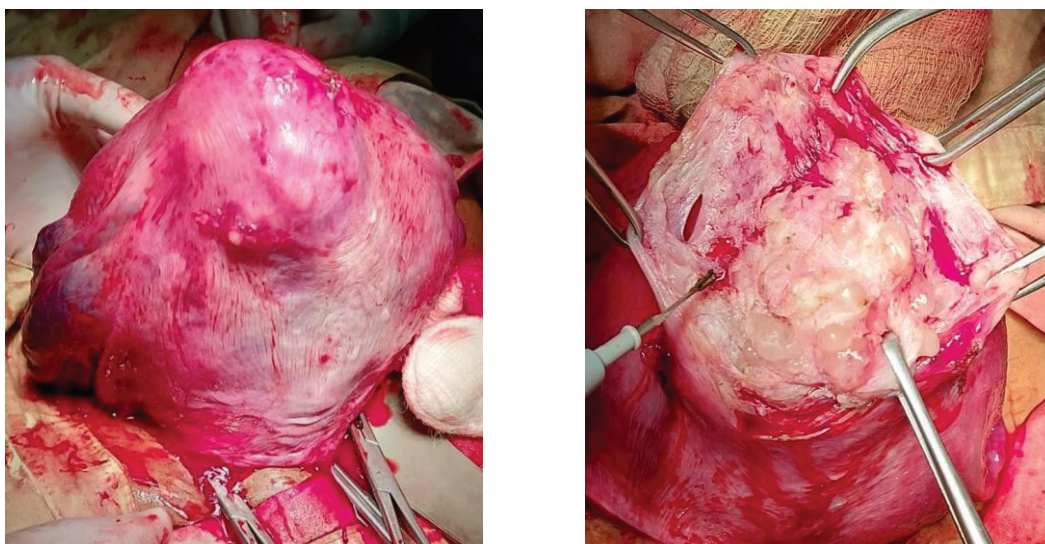


Figure 1: *Surgical Findings of Uterine Fibroid with Muroid degeneration During Cesarean Section*

Discussion

The case of Jesmin, a 40-year-old woman with subfertility who developed mucoid degeneration of a uterine fibroid during pregnancy, highlights several important points in the management of fibroids in pregnancy. Mucoid degeneration of fibroids is a rarest complication that can occur during pregnancy, presenting challenges in diagnosis and management. Previous studies have reported that Mucoid degeneration of fibroids can mimic other conditions, such as ovarian cysts or adenomyosis, making it difficult to diagnose⁶. In Jesmin's case, the presence of a hypoechoic mass in the posterior wall of the uterus raised suspicion for Mucoid degeneration of a fibroid, which was confirmed on histopathological examination.

Challenges and considerations in managing fibroids in pregnancy

Managing fibroids in pregnant women, especially those with a history of subfertility, poses several challenges. Fibroids can increase the risk of complications during pregnancy, including miscarriage, preterm birth, and placental abruption⁷. In Jesmin's case, the presence of a fibroid complicated her pregnancy and necessitated a cesarean section. Additionally, fibroids can make it difficult to monitor the fetus and may increase the likelihood of requiring a cesarean section⁸. Jesmin's case underscores the importance of early diagnosis and appropriate management of fibroids in pregnant women, especially those with subfertility, to minimize the risk of complications and ensure optimal outcomes for both the mother and the fetus.

Recommendations for future management

Future research should focus on improving the diagnosis and management of fibroids in pregnant women, particularly those with subfertility. Studies have suggested that early detection and monitoring of fibroids in pregnant women can help to reduce the risk of complications and improve pregnancy outcomes⁹. Additionally, research is needed to evaluate the safety and efficacy of different treatment modalities for fibroids in pregnant women, including medical and surgical interventions¹⁰. Finally, there is a need for larger studies to assess the long-term outcomes of pregnancy in women with fibroids, particularly those with subfertility, to guide clinical practice and improve patient care.

Conclusion

In, the case of Jesmin highlights the challenges of managing Mucoid degeneration of fibroids during pregnancy, especially in women with subfertility. Early diagnosis, close monitoring, and appropriate management are crucial in ensuring optimal outcomes for both the mother and the fetus. Further research is needed to improve the diagnosis and management of degeneration of fibroids in pregnant women and to evaluate the long-term outcomes of pregnancy in this population.

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Abbreviations

FT4 - Free Thyroxine

TSH - Thyroid Stimulating Hormone

IU - International Units

HCG - Human Chorionic Gonadotropin

NVD - Normal Vaginal Delivery

Article at a glance

Study Purpose: To outcomes of mucoid degeneration of uterine fibroids during pregnancy, particularly in women with subfertility.

Key Findings: Successful management of mucoid degeneration with cesarean section; the importance of early diagnosis and appropriate management.

Newer Findings Added: Highlighted challenges in managing fibroids in pregnant women with subfertility, emphasizing the need for close monitoring and multidisciplinary care.

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