

Adenomyosis: A silent risk factor for postpartum hemorrhage – Case report

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Abstract

Adenomyosis is a condition characterized by presence of ectopic endometrial glands and stroma in the myometrium, which remains asymptomatic in many patients. Recent studies have shown that adenomyosis can be a cause of poor uterine contraction and postpartum hemorrhage (PPH). This case describes a 33-year-old multiparous female patient who experienced atonic PPH after delivery, leading to an emergency hysterectomy. Histological study indicated adenomyosis. This case report emphasizes that adenomyosis is a previously underestimated risk factor for PPH.

Keywords: Adenomyosis, postpartum hemorrhage, uterine atony, hysterectomy, histopathology

Introduction

Despite advances in obstetrics and gynecology, postpartum hemorrhage (PPH) continues to be one of the main causes of maternal morbidity and mortality, with uterine atony being responsible for about 70-80% of cases.^[1] Although common causes like retained products of conception and overdistention of the uterus have been extensively studied, intrinsic pathologies of the myometrium, such as adenomyosis, can potentially make women susceptible to uterine atony and severe PPH.^[2] Adenomyosis is characterized by the presence of glands and stroma from the endometrium within the myometrium, along with hyperplasia of smooth muscle cells.^[3] It is often an incidental finding when examining hysterectomy specimens.

Case Presentation:

The patient is a 33-year-old G3P2L2 who presented with onset of labor at 38 weeks' gestational age. Her antenatal period was uncomplicated and there were no issues related to placenta previa, hypertensive disorders, coagulopathy or any previous surgery on the uterus. She had successfully delivered her baby in normal course twice before. She delivered a normal male neonate weighing 3.1 kg via normal vaginal route. Following delivery of the placenta, she started bleeding profusely. Uterus was found large, boggy and not contracting at all. Treatment options included uterine massage, intravenous oxytocics, methylergometrine, prostaglandin analogues, as well as bimanual compression of the uterus. However, despite medical treatment, hemorrhage did not stop and she went into shock. Given this scenario of atonic PPH, hysterectomy was performed.

Macroscopic Examination

The hysterectomy specimen contained uterus with cervix, measuring 10 × 6 × 4.5 cm. The surface was smooth without any abnormality. On sectioning, there was evidence of diffuse thickening of myometrium with a trabeculated appearance and grey black hemorrhagic area identified in the myometrium. No leiomyoma, placental implantation

problems, or retained products of conception could be seen. (Fig 1)

Microscopic Features

On histological examination, there were multiple glands and stroma from the endometrium infiltrating deeply within the myometrium (>2.5 mm from the endomyometrial junction) with smooth muscle hyperplasia and hypertrophy. There were no signs of placenta accreta spectrum, placental remnants, or infections present.

Discussion

Adenomyosis is a benign gynecological disorder predominantly occurring in multiparous women during their reproductive years.^[3] While it is generally considered a cause of dysmenorrhea and menorrhagia, it may be asymptomatic and go unnoticed unless confirmed through histopathological analysis.^[2] Recent investigations have highlighted adenomyosis as a predisposing factor for obstetric complications such as premature labor, placental pathology, and postpartum hemorrhage.^[4, 5]

The mechanisms underlying the association between adenomyosis and PPH are diverse. The ectopic endometrial cells interfere with the normal anatomy of the myometrium, causing poor uterine contractions and inadequate blood clotting following childbirth.^[6] Furthermore, adenomyosis regions exhibit enhanced vascularization with delicate vessels that further exacerbate the bleeding.^[7] Disturbance in smooth muscle bundle arrangement and the presence of inflammatory molecules may also decrease sensitivity to uterotonic drugs, ultimately leading to persistent uterine atony.^[6]

Multiple clinical investigations have shown an elevated frequency of PPH and hysterectomies in patients with adenomyosis than in those without the disease.^[4, 5] In the current scenario, the absence of retained placental debris, placenta accreta, or any coagulopathy and histopathological evidence of diffuse adenomyosis strongly imply the underlying cause of refractory atonic PPH.



Fig 1: Hysterectomy specimen demonstrating diffuse thickening and trabeculated appearance of myometrium with grey black hemorrhagic area identified in the myometrium.

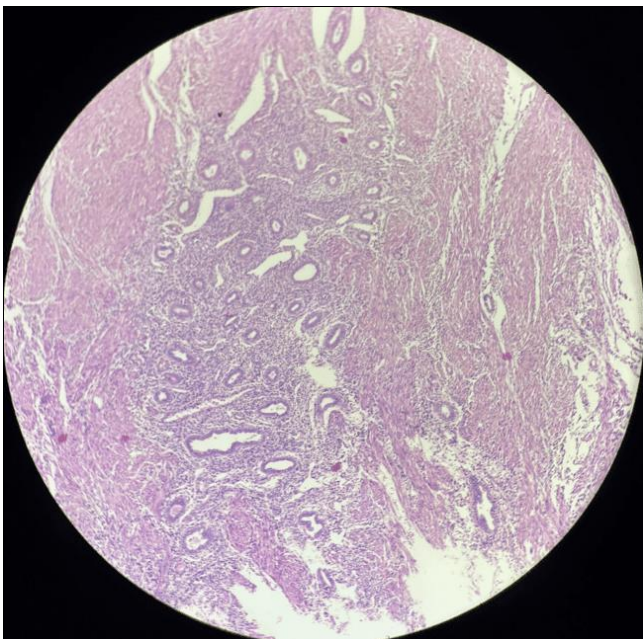


Fig 2: Hematoxylin and eosin stained sections examined show glands and stoma deeply with in the myometrium (10X)

Conclusion

Adenomyosis may prove to be a hidden but important contributor to non-resolving atonic postpartum hemorrhage. It is imperative to be aware of this connection for obstetricians and pathologists when there are no known causes of PPH. A meticulous microscopic examination of hysterectomy samples is required to diagnose this condition and shed light on the etiology of obstetric bleeding.

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