

# Vulval Leiomyoma: A Rare and Often Misdiagnosed Benign Tumor

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## Abstract

Uterine Leiomyomas are a common condition, diagnosed in 20-25% of women of reproductive age. However, vulval leiomyomas are rare and often mistaken for Bartholin's cyst before surgery. These benign tumors generally cause little to no discomfort, with patients typically presenting with a painless vulval swelling that has been present for an extended period, sometimes years. Although leiomyomas in the vulva are uncommon, they are the most prevalent benign solid tumors in this area. Vulval leiomyomas represent only 0.03% of all gynecologic tumors and 0.07% of vulval tumors.

## Introduction

Leiomyomas are the most frequent benign tumors affecting women, originating from the smooth muscle cells of the uterus (myometrium). The exact mechanism behind the development of uterine leiomyomas is not fully understood, but research suggests that these tumors are dependent on estrogen. Leiomyomas seem to express higher levels of estrogen and progesterone receptors compared to surrounding normal smooth muscle cells.

Vulval leiomyomas are extremely rare and pose a diagnostic challenge. Histologically, vulval leiomyomas can arise from smooth muscle within erectile tissue, the walls of blood vessels, or the round ligaments. They can affect women of any age between 30 and 60 years. Typically, these tumors present as a painless, well-circumscribed vulval swelling that can persist for years if left untreated. Due to their location, they are often misdiagnosed as Bartholin's cysts, with the correct diagnosis being made post-operatively.

## Case Presentation

A 41-year-old woman with two previous full-term pregnancies (P2L2) visited the gynecology outpatient department, complaining of a swelling on her right labia that had been present for over two years. The swelling had gradually increased in size but remained painless. During the consultation, the patient also reported an incidental finding of a small cervical polyp measuring 9×18 mm, discovered during a prior ultrasound. She had no associated menstrual complaints and no history of vaginal discharge, pain, or weight loss.

Upon examination, a 3.5×4.5 cm swelling on the right labia was observed, which was soft to firm in consistency and non-tender. Given its location, a presumptive diagnosis of Bartholin's cyst was made, and the patient was prepared for a day surgery to excise the Bartholin's cyst along with a cervical polypectomy. After all necessary pre-operative tests and anesthesia clearance, the patient was admitted on the day of surgery and underwent the procedure under short general anesthesia. During the surgery, after performing the cervical polypectomy, the labial mass was excised. It was firm and well-encapsulated, raising doubts about the initial diagnosis. The excised mass was sent for histopathological examination, and the patient recovered well post-operatively.

Histopathological examination revealed that the gross specimen was a soft tissue piece measuring approximately 4×3×2 cm. Microscopic analysis showed a benign tumor with bundles of spindle-shaped cells, characteristic of leiomyomas.

## Discussion

Leiomyomas are benign tumors of smooth muscle that are the most common gynecologic and uterine neoplasms. Uterine leiomyomas affect about 20-30% of women over the age of 35. Extra-uterine leiomyomas are rare and more challenging to diagnose due to their unusual location. They usually originate from smooth muscle cells in the genitourinary tract (including the vulva, ovaries, urethra, and urinary bladder) but can arise in any anatomical site. Vulval leiomyomas are rare and, due to their location, are often mistaken for Bartholin's cysts. Transperineal ultrasonography can assist in diagnosing vulval leiomyomas, while MRI can help differentiate between benign and malignant masses. The preferred treatment is surgical excision, with histopathological examination of the excised mass confirming the diagnosis.

## Conclusion

Vulval leiomyomas are a rare type of neoplasm and are commonly misdiagnosed as Bartholin's cysts due to their similar anatomical location and symptoms. Careful examination and thorough investigation are essential for clinicians to suspect this diagnosis. The cause of vulval leiomyomas remains unclear, but estrogen and progesterone may play a significant role in their growth. Surgical removal of the tumor along with the surrounding normal tissue is the recommended treatment. Histopathological examination is necessary for a definitive diagnosis. While degenerative changes are often observed in these tumors, none were present in this case.

## Informed consent

Consent was taken for the procedure and publication.

## Conflict of interests

The author declare that there is no conflict of interests regarding publication of this article.

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