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Case Report

Unmasking the uncommon: a rare case of vulval leiomyoma mimicking a Bartholin cyst

Medarametla Hasitha, M. G. Dhanalakshmi*, Kanchibotla Meghana

Department of Obstetrics and Gynaecology, Sri Ramachandra Institute of Medical Sciences and Research, Chennai, Tamil Nadu, India

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***Correspondence:**
Dr. M. G. Dhanalakshmi,
E-mail: dhanalakshmi@sriramachandra.edu.in

ABSTRACT

Vulval leiomyomas are rare benign smooth muscle tumors, often misdiagnosed due to their nonspecific presentation. They constitute approximately 3.8% of all benign soft tissue tumors in the vulvar region. We report the case of 30-year-old multiparous women, with a history of caesarean section five years' prior, presenting with a three-month history of right-sided vulvar pain and swelling. Physical examination revealed a tender, cystic mass measuring 3×4 cm in the right labia, extending to the right lateral vaginal wall. A provisional diagnosis of a paraurethral mass was made. Surgical excision was performed under appropriate anesthesia. Histopathological examination confirmed the diagnosis of vulval leiomyoma. The patient's postoperative course was uneventful, with no recurrence observed during follow-up. This case underscores the importance of considering vulvar leiomyoma in the differential diagnosis of vulvar masses. Accurate diagnosis relies on histopathological evaluation, and complete surgical excision remains the choice.

Keywords: Vulval leiomyomas, Vulvar lesions, Paraurethral mass

INTRODUCTION

Leiomyomas are benign tumors of smooth muscle origin, most commonly found in the uterus. Vulvar leiomyomas represent 0.03% of all gynecologic neoplasms and 0.07% of vulvar tumors.[1] However, their occurrence in the vulvar region is exceedingly rare, accounting for a small fraction of vulvar tumors. Due to their rarity and nonspecific clinical presentation, vulval leiomyomas are often misdiagnosed as Bartholin cysts, abscesses, or other benign lesions. Accurate diagnosis is crucial for appropriate management and to prevent unnecessary interventions.[2]

CASE REPORT

Patient information

A 30-year-old, multiparous woman, with a history of lower segment cesarean section five years' prior, presented with complaints of pain and swelling in the genital area for three months. She had no known comorbidities. On clinical findings, the patient reported an insidious onset of dull, progressive pain in the genital area, aggravated by touch and sitting and relieved by rest. She also noticed a gradually enlarging swelling on the right side of the vulva over the same period. There were no complaints of vaginal discharge, and her menstrual cycles were regular.

The physical examination reveals 3×4 cm tender, cystic swelling was noted in the right labia, extending to the right lateral vaginal wall. The clinical presentation of the vulvar swelling is given in Figure 1.

There was no local rise in temperature. A provisional diagnosis of a paraurethral mass was made. The diagnosis was made clinically. Routine laboratory investigations were within normal limits. The patient was assessed and deemed fit for anesthesia.

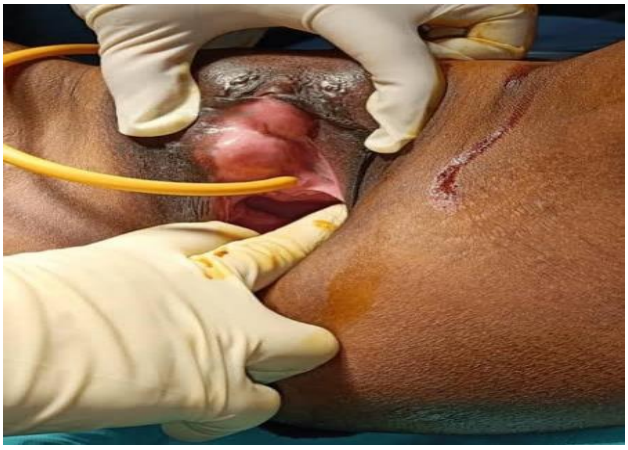

Figure 1: Clinical presentation showing vulvar swelling mimicking Bartholin cyst.

Therapeutic intervention

Surgical excision of the paraurethral mass was performed. Intraoperatively, a 4×4 cm para urethral mass was identified in the anterior one-third of the vaginal wall. An incision was made over the swelling, and a soft tissue mass was seen, close to the urethral region. The mass was removed completely and sent to histopathological examination. The surgical site was sutured with 2-0 chromic catgut, and hemostasis was secured. The postoperative image is given in Figure 2.

Figure 2: Postoperative image on day 3 after surgery.

Histopathological findings

The specimen was a single grey-white globular soft tissue mass measuring 3.5×3.2×3 cm. The external surface was smooth, and the cut surface was grey-white and homogeneous. Microscopic examination of the sections showed a fairly circumscribed lesion composed of interlacing fascicles and bundles of smooth muscle cells. There was no evidence of cytological atypia, increased mitotic activity, or necrosis. The features were consistent with a diagnosis of vulval leiomyoma. Figure 3 represents the microscopic view of the histological findings.

Follow-up and outcomes

The patient's intraoperative and postoperative periods were uneventful. A bladder catheter was retained for 2 days postoperatively. The patient resumed normal bowel and bladder habits, and the surgical wound was healthy and dry. No recurrence was noted during the follow-up.

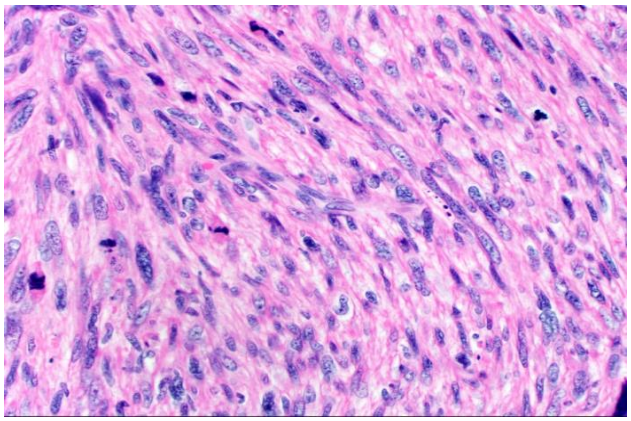

Figure 3: Microscopic view showing interlacing fascicles of smooth muscle cells without atypia.

DISCUSSION

Vulval leiomyomas are rare benign tumors arising from smooth muscle cells in the vulvar region. They often present as painless, well-circumscribed masses and are frequently misdiagnosed as Bartholin cysts or other benign lesions due to their nonspecific clinical features.

A wide local excision, accompanied by histopathological analysis, is the most dependable method for diagnosing vulvar leiomyoma.[3]

Vulvar leiomyomas are rare, solitary, slow-growing tumors arising from smooth muscle cells of the vulva or dartos muscle. They originate from pluripotent mesenchymal cells which then differentiate into smooth muscle cells but their exact cause remains unclear. They are most commonly found in women of reproductive age, but their rarity limits the full understanding of their morphology and epidemiology.[4]

While it was once believed that vulvar leiomyomas, like uterine leiomyomas, occur primarily during reproductive years and regress after menopause, there is no evidence supporting their regression in menopausal or postmenopausal periods. Some cases show continued growth in postmenopausal women. Therefore, suspected leiomyomas in both reproductive-age and older women should be monitored, with surgical intervention considered when necessary.[5]

Histologically, vulval leiomyomas are composed of interlacing bundles of spindle-shaped smooth muscle cells with minimal atypia and low mitotic activity. The primary

treatment for vulval leiomyoma is complete surgical excision, which is usually curative. Recurrence is rare but can occur if the excision is incomplete. Therefore, accurate preoperative diagnosis and complete surgical removal are essential for optimal patient outcomes.[6]

CONCLUSION

This case highlights the importance of considering vulval leiomyoma in the differential diagnosis of vulvar masses. Due to their rarity and nonspecific presentation, these tumors can be easily misdiagnosed. Histopathological examination remains the gold standard for diagnosis, and complete surgical excision is the treatment of choice. Awareness of this rare entity is crucial for clinicians to ensure accurate diagnosis and appropriate management.

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