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Pedunculated Vulvar Hemangioma in an Adult Woman: A Rare Case Report

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Abstract: Vulvar hemangioma in adults constitutes an exceedingly rare benign vascular neoplasm, often mimicking more common vulvar pathologies and thereby complicating clinical diagnosis. We reported a 41-year-old multiparous woman (P3A0) presented with a progressively enlarging pedunculated mass on the left vulva, associated with pain, malodorous discharge, and localized inflammation. Surgical excision was undertaken, and histopathological evaluation revealed numerous dilated capillary vascular channels engorged with erythrocytes and accompanied by inflammatory infiltrates without cytologic atypia, consistent with capillary hemangioma. The postoperative course was uneventful, characterized by optimal hemostasis, satisfactory epithelialization, and complete wound healing. Early postoperative follow-up at 2–3 days revealed satisfactory wound healing without evidence of residual lesion or early recurrence, supporting a successful and definitive surgical result. Histopathological confirmation remains the gold standard for definitive diagnosis. Surgical excision provides both diagnostic clarity and therapeutic benefit, with favorable outcomes, although long-term surveillance is recommended to detect recurrence or complications. In conclusion, hemangioma should be recognized as a rare differential diagnosis of vulvar masses in adults, with surgical excision as the treatment of choice and structured follow-up warranted.
Keywords: vulvar hemangioma; benign vascular neoplasm; surgical excision

INTRODUCTION

Hemangioma is a benign vascular neoplasm characterized by abnormal endothelial proliferation and irregular vascular channels. Although infantile hemangiomas are among the most common benign vascular tumors in childhood, with an overall prevalence estimated at 2.8% (95% CI: 1.5–4.4%) globally, genital involvement represents only about 1% of all cases, most of which are vulvovaginal in location.[1,2] In adults, however, vulvar hemangiomas are exceedingly rare, with only isolated case reports and small reviews available, underscoring the absence of established prevalence data or standardized management guidelines.[3] Vulvar hemangiomas in adults are extremely uncommon, with limited evidence on epidemiology, clinical features, and management. Clinically, they may be asymptomatic or present with bleeding, pain, edema, or cosmetic deformity, often mimicking Bartholin cysts, vulvar varicosities, or other benign neoplasms.[4] Diagnosis typically requires physical examination, vascular imaging, and histopathology examination. Surgical excision remains the most reported definitive treatment, underscoring the importance of case reports in guiding clinical practice.[5,6]

CASE PRESENTATION

A 41-year-old multiparous woman (P3A0) presented with a pedunculated vulvar mass, first observed approximately one year prior, with obstetric history notable for her last delivery in 2018. Initially small, the lesion had gradually increased in size. Over the past week, the patient complained of pain at the mass site, accompanied by foul odor and discharge from the stalk. She reported applying a topical medication of unknown type without improvement. Fever was noted one day prior to presentation. Obstetric history revealed last menstrual period in early August 2025, two vaginal deliveries, one caesarean section, and intrauterine device use since 2018. No history of chronic disease or comorbidities was reported.

On physical examination, the patient's general condition was stable. A caesarean scar was seen on the abdomen. External genital inspection revealed a 5 × 5 cm pedunculated mass arising from the left vulva with a stalk diameter of about 0.5 cm. The stalk appeared hyperemic, exuding discharge and foul odor, with signs of local inflammation (Figure 1). Routine laboratory tests were within normal limits, except for mild inflammatory changes. Serologic tests for hepatitis B and HIV were non-reactive. Based on initial clinical findings, a differential diagnosis of infected vulvar fibroma was made. The patient was scheduled for surgical excision. The patient underwent circular excision of the vulvar mass under regional anesthesia, followed by hemostasis and layered wound closure (Figure 2). The postoperative course was uneventful, with minimal bleeding and good healing (Figure 3). The patient received antibiotics, analgesics, and supportive therapy, and was discharged after clinical improvement.

Histopathological examination of the specimen showed stratified squamous epithelium overlying numerous variably sized, branching blood vessels, some dilated and containing erythrocytes. Vascular walls were lined by endothelial cells without atypia.

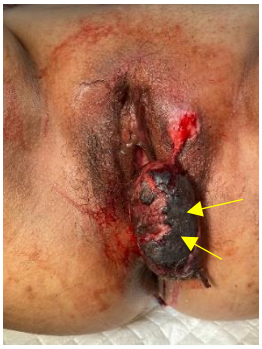

Figure 1. Purplish hemangioma lesion with ulceration and bleeding

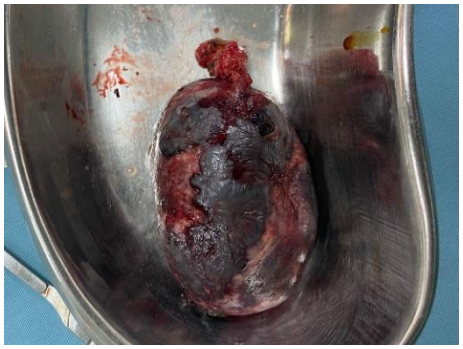

Figure 2. Excised specimen showing an irregular surface mass with necrotic area

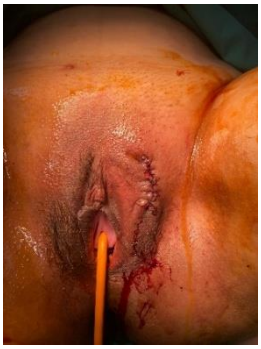

Figure 3. Post-excision wound.

Extensive hemorrhage and inflammatory infiltrates composed of lymphocytes, histiocytes, and polymorphonuclear leukocytes were also observed. No malignant cells or atypia were identified. The final diagnosis was a vascular lesion consistent with inflamed capillary hemangioma of the vulva (Figure 4).

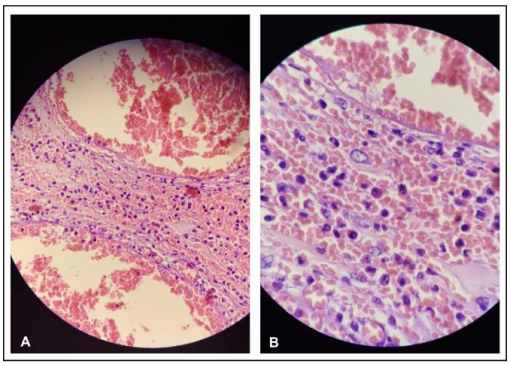

Figure 4. Histopathologic features of vulvar hemangioma. A, Microscopic appearance 40×; B, Microscopic appearance, 100×

DISCUSSION

Vulvar hemangioma is an exceedingly rare entity. Although hemangiomas are common benign vascular tumors in the pediatric population, adult genital involvement is infrequently reported and often overlooked in the differential diagnosis of vulvar masses. Approximately 80% of hemangiomas occur as solitary lesions.[4] Pediatric studies estimate that genital hemangiomas account for about 1% of all infantile hemangioma cases, whereas adult-onset or persistent vulvar forms remain anecdotal.[1–3] Pedunculated hemangiomas, occasionally described in other mucocutaneous regions such as the oral cavity, nasal mucosa, and perianal area, share similar morphogenetic features characterized by a vascular stalk arising from progressive exophytic proliferation of superficial capillary networks influenced by mechanical, hormonal, and hemodynamic factors.[7,8] In the vulvar region, these factors may be further potentiated by local friction, venous congestion, and humidity, predisposing to ulceration and secondary infection. Despite their benign nature, pedunculated hemangiomas may cause discomfort, bleeding, and diagnostic uncertainty. Owing to their well-circumscribed structure, complete surgical excision with adequate ligation of the vascular pedicle typically ensures excellent outcomes and minimal recurrence risk. In this case, clinical findings suggested a benign vascular lesion. Complete surgical excision with layered closure resulted in effective hemostasis, rapid recovery, and no recurrence, confirming surgery as the optimal management for such lesions.[3,5,6]

In this case, the patient exhibited a progressively enlarging pedunculated vulvar mass with localized tenderness, erythema, malodorous discharge, and intermittent febrile episodes, indicative of an underlying inflammatory or vascular pathology. These nonspecific complaints can mimic more common vulvar disorders. Adult vulvar hemangiomas are rare and often misdiagnosed as Bartholin cysts, vulvar varicosities, or benign mesenchymal tumors.[3,4] Previous reports emphasize that careful anamnesis and recognition of atypical features, such as persistent bleeding or ulceration, are critical for distinguishing vulvar masses.[3,6] In this case, the lesion had been present for a year, with recent acute inflammation, supporting the suspicion of a vascular lesion rather than a simple cyst or fibroma.

The pedunculated configuration of the lesion in this case reflects a distinct morphologic adaptation observed in certain superficial vascular tumors, characterized by a well-circumscribed mass with a narrow vascular stalk and lobulated surface. Histopathology revealed dilated, thin-walled capillaries lined by flattened endothelial cells without atypia, along with hemorrhage and inflammatory infiltrates, supporting the concept that superficial vascular proliferation and mechanical factors contribute to stalk formation and secondary ulceration. Similar to

pedunculated hemangiomas reported in mucocutaneous and dependent regions, the formation of a vascular stalk in the vulva may result from progressive exophytic proliferation of superficial capillary networks influenced by frictional, hormonal, and hemodynamic.[4,9] This architecture predisposes to venous stasis, congestion, and ulceration, explaining the symptomatic presentation and local inflammation. Theoretically, such lesions remain well circumscribed and amenable to complete excision, yet their vascular pedicle increases intraoperative bleeding risk, warranting careful preoperative assessment of flow dynamics.[3,10]

Physical examination revealed a violaceous, ulcerated, and tender mass with spontaneous bleeding, consistent with symptomatic hemangiomas.[3] The stalk appeared hyperemic with foul-smelling discharge, indicating local inflammation. While clinical evaluation remains crucial, Doppler ultrasonography or MRI can assess vascular flow, lesion depth, and anatomical relations, guide surgical planning and minimize intraoperative bleeding.[3,11] In this case, absence of preoperative imaging was a limitation. Histopathology examination confirmed capillary hemangioma, demonstrating branching dilated capillaries lined by monomorphic endothelium without atypia, aligning with prior reports.[4,12]

Surgical excision was performed with minimal bleeding and satisfactory wound healing. Excision remains the most reported definitive therapy for resectable symptomatic lesions, offering both diagnostic and curative value.[3] Prior reports similarly demonstrate surgery as effective for rare gynecologic lesions, including unusual sites such as omental ectopic pregnancy.[13] For larger or multifocal vascular lesions, multimodal approaches such as embolization, sclerotherapy, or systemic therapy may be indicated.[4,14,15]

Infection and inflammation seen in this case, evidenced by fever, discharge, and leukocytosis, required perioperative antibiotics and careful wound care.[4] This is consistent with reported findings on surgical wound dehiscence, highlighting the importance of infection control and the use of standardized dressings.[16] Psychosocial considerations, including sexual function, body image, and quality of life, also warrant attention. Long-term follow-up of ≥6–12 months with clinical and imaging evaluation is recommended to monitor recurrence.[11,12,17]

CONCLUSION

Adult vulvar hemangioma is exceedingly rare and often mimics Bartholin cysts or other benign vulvar lesions, making the diagnosis challenging. Histopathological evaluation remains essential for definitive confirmation, while surgical excision continues to represent the mainstay of treatment for symptomatic solitary lesions, offering both diagnostic and curative benefit. In this case, complete surgical excision achieved excellent hemostasis with minimal intraoperative bleeding and optimal postoperative wound healing, confirming the curative potential of surgery for localized vulvar capillary hemangioma. This report underscores the importance of structured postoperative follow-up to monitor for recurrence and contributes to the limited body of evidence guiding management of this rare entity.

Conflict of Interest

The authors affirm no conflict of interest in this study.

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