Clinicopathological Evaluation of Benign Vulvar Tumors: A Descriptive Study in a South Asian Population

Akshaya Murali1, Sushitha Chandran2, Annamma Thomas3

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ABSTRACT

Aim: To analyze the different types of benign vulvar tumors that required surgery and to correlate with the histopathological findings postoperatively.

Materials and methods: This retrospective study was conducted over a period of 1 year in a tertiary care hospital in Southern India. A total of 11 benign solid vulvar masses which were operated between July 2022 and June 2023 were included in the study. Demographic data, description of the mass, time taken to seek medical attention, surgical procedure and pictographic histopathological findings were studied.

Results: The study population ranges from 26 to 45 years with a mean age of 35.8 ± 7.33 years. The mean time taken to seek medical care for the detected mass was 16.25 ± 17.23 months. The earliest presentation was noted 6 months after detection, while one patient presented 6 years after the appearance of the mass. The largest mass was 12 × 15 cm in size. All the masses underwent complete surgical excision with no postoperative complications. The most common pathological finding was fibroepithelial polyp, noted in four patients, followed by leiomyoma of the vulva and vulvar hemangioma. The other masses were reported as vulvar endocervicosis, epidermoid cyst, and lipoma, respectively. It is important to note that these tumors, though benign, can cause functional, sexual, and emotional impairment. These women were followed up 6 months postoperatively and did not show any recurrence. The quality of life assessment using the VR-12 validated scale indicated the improvement in all 11 women after surgery.

Conclusion: Surgical excision of benign vulvar masses not only mitigates the risk of premalignant tumors of the vulva, but also greatly improves the quality of life.

Clinical significance:

• This study helps us understand benign vulvar masses and the importance of surgical removal of these masses to prevent risk of malignancy.
• Surgical excision helps to greatly improve the quality of life in these women.

Keywords: Fibroepithelial polyp, Vulvar mass, Vulvar lesions.

INTRODUCTION

Vulvar masses are relatively uncommon tumors of the lower genital tract. It is often difficult to distinguish between the different types of vulvar tumors due to similarity in presentation. Surgical excision with histopathological review is the primary method to reach a final diagnosis. Vulvar masses can be malignant or benign, as well as solid or cystic in nature. Solid benign vulvar tumors have not been extensively studied in literature, mainly due to social stigmata in developing countries where women do not easily seek treatment for conditions of the lower genital tract.

The aim of this study is to identify the different types of solid benign vulvar masses seen in clinical practice and correlate with their postoperative histopathological reports. Though majority of the solid vulvar tumors are harmless, premalignant and malignant transformation can occur over time, emphasizing the need for early diagnosis and treatment.

The study also aims to increase the awareness about self-examination and the need for early access to medical care to improve the quality of life in these women.

MATERIALS AND METHODS

Setting

This descriptive study was conducted in a tertiary care hospital, St. John’s Medical College Hospital, Bengaluru, India.

Sample Size and Duration

We included 11 cases of vulvar masses after retrospective analysis of patient data between July 2022 and June 2023. All consecutive patients satisfying the inclusion criteria over a 1-year period were recruited.

Inclusion and Exclusion Criteria

The study included only solid benign vulvar masses. Lesions of suspected malignancies, cystic masses, infected and traumatic lesions were excluded from the study.

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**Procedure**

Demographic data, description of the mass, time taken to seek medical attention, quality of life assessment, surgical procedure and postoperative pictographic histopathological findings were studied. These women were followed up till 6 months after surgery to identify recurrences.

**Data Analysis**

Institutional Ethics Approval was obtained for the study. Data analysis was performed using Excel software. Continuous variables are expressed as mean (standard deviation) or median (IQR) depending upon the normality of distribution. Categorical variables are expressed as proportions with 95% confidence interval.

**Results**

The study population ranges from 26 to 45 years with a mean age of 35.8 ± 7.33 years (Fig. 1). The mean time taken to seek medical care for the detected mass was 16.25 ± 17.23 months (Fig. 2). The earliest presentation was noted 6 months after detection, while one patient presented 6 years after the appearance of the mass.

**Discussion**

Benign tumors of the vulva are seen most frequently in women of the reproductive age group. Though these neoplasms are a rare entity, it is important to identify and categorize these lesions for appropriate management. There is currently no standardized
classification of benign vulvar masses available in literature. These masses are generally classified as cystic and solid tumors, and further divided based on cellular origin. Surgery is generally indicated for cosmesis, to improve the quality of life, relieve discomfort and improve sexual function. Surgical excision is mandated to rule out premalignant and malignant transformation of these tumors.

Though a number of studies have described tumors of the vulva, a majority of them study malignant neoplasms. Kalyani et al. assessed both cystic and solid lesions of the vulva retrospectively over 5 years, concluding that Bartholin’s cyst was the most common lesion, followed by inclusion cyst and Gartner’s cyst. Sally et al. described benign “lumps and bumps” of the vulva, and classified them from a Dermatology perspective as cystic lesion, glandular neoplasms, melanocytic neoplasms, lymphovascular proliferations, keratinocytic neoplasms, sebaceous lesions, and solid neoplasms.

A case series by Bringas depicted three large vulval tumors—Bartolin’s cyst, Cellular Angiofibroma and Lipoblastoma of the vulva. Ning et al. in their review article, described both benign and malignant lesions of the vulva and vagina, correlating MRI findings with pathological manifestations.

In our study, we encountered five distinct pathological types of solid benign tumors of the vulva. The most common type being fibroepithelial polyp, followed by leiomyoma of the vulva and genital hemangioma. We describe our clinical/surgical findings and correlate them with the postoperative histopathological diagnosis.

**Fibroepithelial Polyp**

The most common solid mass identified in this study was fibroepithelial polyp (also known as acrochordon). These polyps are usually seen in the reproductive age group, and present as large, painless lesions having minimal malignant potential. Small polyps do not require any treatment, unless the patient desires its removal for cosmetic purposes. Larger masses are surgically excised at the base of the stalk to prevent recurrence. These solid tumors are of epithelial origin. Histologically, they consist of hyperkeratotic squamous cells with a fibrovascular stalk (Fig. 4).

**Vulvar Leiomyoma**

Leiomyoma of the vulva arises from the genital smooth muscle tissue. They account for 0.03% of vulvar neoplasms. It usually presents as a solitary nodule over the labia majora and often becomes painful with time. In the present study, we encountered two cases (27.27%) of leiomyoma. Surgical excision is mainstay treatment, which involves in-toto removal of the tumor along its pseudocapsule. Chance of recurrence is minimized by ensuring complete excision of the pseudocapsule. Histologically, these tumors consist of neoplastic proliferation of spindle cells with occasional epithelioid cells and vascular elements (Fig. 5).

**Hemangioma**

Hemangiomas are vascular malformations, which may be capillary or cavernous. They are well-demarcated lesions red or purple in color, raised or flat in nature. In the present study, we noted one case each of clitorial hemangioma and labial hemangioma. These tumors have a tendency to bleed torrentially, posing a surgical challenge. Treatment can be in the form of surgical excision, laser, or cryotherapy. Histologically, these tumors consist of hyperplastic endothelial cells and atypical proliferation of dilated vascular tissue. During the involution stage, marked fibrosis is noted (Fig. 6).

**Vulvar Endocervicosis**

These benign tumors can occur in the vagina, cervix, bladder, or bowel. They originate from Mullerian cells. Endocervicosis can have varied presentation, from asymptomatic lesions to enlarged tender nodules. These lesions tend to present post-Cesarean section and are most commonly seen near the bladder, and rarely the external genitalia. Histologically, these lesions contain a single layer of epithelial cells with glandular tissue resembling endocervical cells. These tumors can be mistaken for adenocarcinoma, due to the presence of abundant proliferative cells. Surgical excision is mandated to distinguish between these benign tumors and malignancy (Fig. 7).

**Lipoma**

Lipomas are benign mesenchymal neoplasms that can occur anywhere on the body. Vulvar lipomas are relatively rare, with very few reports in literature. They usually present as mobile, non-tender, soft swellings, and surgery is usually performed for cosmetic reasons. Smaller lipomas do not require any treatment. Rarely, they may present as large vulvar masses, requiring surgery to distinguish...
Figs 5A and B: (A) Vulvar leiomyoma; (B) Histopathological findings of vulvar leiomyoma

Figs 6A and B: (A) Labial hemangioma; (B) Histopathological findings of labial hemangioma

Figs 7A and B: (A) Excised mass of vulvar endocervicosis; (B) Histopathological image of vulvar endocervicosis
them from malignant tumors.\textsuperscript{9,10} Histologically, lipomas consist of mature fat cells with a thin capsule (Fig. 8).

**CONCLUSION**

Benign solid vulvar tumors have a varied presentation, as well as discrete histological types. In this study, we note the prevalence of different types of vulvar tumors, and surgically correlate them with their pathological diagnosis. Surgical excision of these masses not only mitigates the risk of premalignant tumors of the vulva, but also greatly improves the quality of life.

**ORCID**

Akshaya Murali \( \text{https://orcid.org/0000-0001-5836-7241} \)

**REFERENCES**