

# Vulvar vestibular papillomatosis: A diagnostic conundrum

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## Abstract

Vulvar vestibular papillomatosis (VP) is considered a normal anatomical variant of the vulva. We present a 19-year-old girl with a history of “small itchy growths” on the vulva for 2 months without any associated discharge. These lesions were causing significant anxiety to the patient. Cutaneous examination revealed multiple, uniformly arranged, skin-colored, monomorphic micropapillae on the inner aspect of the labia minora. Biopsy showed mucosal hyperplasia with papillomatosis and loosely arranged subdermal tissue, no koilocytes were spotted. The diagnosis of vulvar VP was made. We want to highlight this clinical entity as most dermatologists are not familiar with this benign condition and easily confuse it with genital warts. This inexperience may result in unnecessary investigations causing psychological discomfort to the patient. We herein present such a case which brings out the diagnostic dilemma.

**Key words:** Genital warts, micropapillae, vulvar vestibular papillomatosis

## Introduction

Vulvar vestibular papillomatosis (VP) is a variation in the normal anatomy of the vulva.<sup>[1,2]</sup> A study conducted in London showed a 1% prevalence of VP in women.<sup>[3]</sup> The prevalence reported in various other studies ranges between 5.1% and 33%.<sup>[4]</sup> VP is usually characterized by small, shiny, and tiny skin-colored papules arranged symmetrically on the inner aspect of the labia minora. Rarely, they can also occur on the vestibule. The surface of these papillae can be smooth or have finger-like projections ranging from 1 mm to 2 mm in diameter. It becomes difficult for treating physicians to distinguish these lesions from genital warts. Most dermatologists are not familiar with this benign condition and may advise unnecessary investigations causing psychological discomfort to the patient. We herein present such a case which highlights the diagnostic dilemma.

A 19-year-old girl had noticed “small growths” on the vulva for 2 months. She experienced an itching sensation on many occasions with increase in the size of the lesions. There was no burning sensation, irritation, or pain with no history of vaginal discharge. She was anxious since these symptoms interfered with her work and sexual activity. She was in a monogamous relationship and had no history of multiple sexual contacts. There was no history of similar lesions in the partner. Examination revealed multiple, small, uniformly arranged, skin-colored, and smooth-surfaced, monomorphic micropapillae covering

the inner aspect of the labia minora [Figure 1a]. They were soft to feel and nontender. There were no vulval or vaginal ulcers and no similar lesions in the perianal area or elsewhere on the body. A provisional diagnosis of VP was made. On vulval biopsy, mucosal hyperplasia with papillomatosis with loosely arranged subdermal tissue was seen [Figure 1b; H and E, ×100]. No koilocytes were identified [Figure 1b inset; H and E, ×400] and the diagnosis of vulvar VP was confirmed. The patient was reassured about the benign nature of the disease, that there was no evidence of infection or malignancy and that no treatment was required.

## Discussion

VP is considered a normal variation in the vulvar anatomy with no known significant associations.<sup>[1,2,5,6]</sup> Altmeyer *et al.* first named these lesions “pseudocondylomata” but later the entity was known by various other names such as “hirsuties papillaris vulvae,” “hirsutoid papillomas of vulvae,” “vestibular microwarts,” “micropapillomatosis,” and “vulval squamous papillomatosis.”<sup>[1-4]</sup> VP has been recorded in healthy young women in the range of 1%–33%.<sup>[3,4]</sup> These papillary projections of the inner labia have been overdiagnosed as caused by HPV infection. Several molecular biology techniques have been conducted in the past to find out the origin of VP, but the results have not been unanimous. Fallani *et al.*<sup>[7]</sup> consider VP as

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10.4103/ijstd.ijstd\_26\_22

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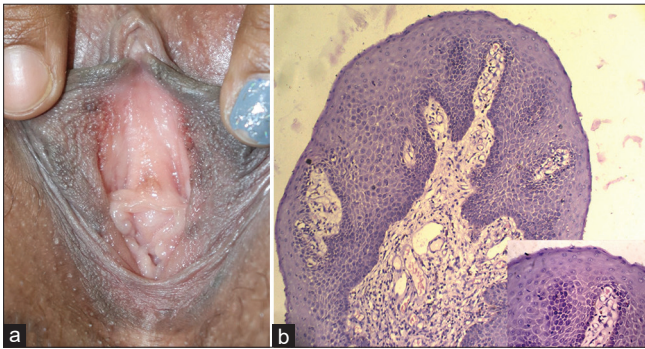
**How to cite this article:** Khan F, Chadha A, Nayak C, Dongre A. Vulvar vestibular papillomatosis: A diagnostic conundrum. *Indian J Sex Transm Dis* 2023;44:64-5.

Submitted: 08-Mar-2022

Revised: 19-Jul-2022

Accepted: 01-Oct-2022

Published: 06-Jun-2023



**Figure 1:** (a): Multiple, small, uniformly arranged, skin-colored, monomorphic micropapillae on the inner aspect of labia minora. (b) Mucosal hyperplasia with papillomatosis with loosely arranged subdermal tissue (H and E,  $\times 100$ ); (Inset): Mucosal hyperplasia with no koilocytes seen in the epidermis (H and E,  $\times 400$ )

asymptomatic normal anatomical variants of the pelvic architecture, whereas Ferenczy *et al.*<sup>[8]</sup> consider it as an exaggerated response of the mucosal epithelium to chronic irritation. Wang *et al.*<sup>[9]</sup> found a 55% prevalence of HPV and concluded that these lesions should be referred to as “micropapillary condylomata.” In contrast, Tribbia *et al.*<sup>[10]</sup> found an incidence of 77.7%, Bergeron *et al.*<sup>[11]</sup> found an incidence of 23%, and Growdon *et al.*<sup>[12]</sup> found 12% incidence of HPV-positive VP lesions using immunoperoxidase and *in situ* hybridization techniques, respectively. A more recent study was conducted on 29 patients by Moyal-Barracco *et al.*<sup>[13]</sup> has shown the independence of this entity with respect to HPV infection. He showed the absence of characteristic histological features of HPV infection and negative HPV DNA sequencing performed by molecular hybridization. Similar results were seen in a study conducted by Origoni *et al.*<sup>[14]</sup>

VP is asymptomatic in the majority of affected females, however, vulvar pruritus, pain, burning, and dyspareunia may accompany in some patients.<sup>[2]</sup> Clinically VP presents as cluster of skin-colored papillae which are, soft, symmetrical, or may be linear<sup>[1-4]</sup> covering labia minora and the introitus vaginae to a variable extent. The absence of whitening on 5% acetic acid application is diagnostic.<sup>[13]</sup> On the contrary, genital warts are skin-colored or pigmented, randomly arranged, firm, acuminate papules with distinct papillary projections, and may fuse at the base. There is a prominent whitening on 5% acetic acid application.<sup>[13]</sup>

Histopathology of VP is characterized by finger-like protrusions of a loose connective tissue covered by normal vulvar epithelium. Some vacuolated epithelial cells can occur. The vestibule comprises very heavily glycogenated epithelial cells which when subjected to tissue processing

get vacuolated and therefore may resemble koilocytes seen with viral infection<sup>[1-3]</sup> and can be confusing.

To conclude, VP can be misdiagnosed as vulvar warts and unnecessary treatment can cause distress to the patient. Therefore, it is imperative that dermatologists be familiar with this condition. There has been a scarcity of literature about this rare entity in the Indian dermatological scenario, highlighting an apparent indifference to this potentially misdiagnosed entity.

#### Financial support and sponsorship

Nil.

#### Conflicts of interest

There are no conflicts of interest.

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