


doi:10.1016/j.jaad.2008.08.041

The use of dermatoscopy to differentiate vestibular papillae, a normal variant of the female external genitalia, from condyloma acuminata

To the Editor: Vestibular papillae of the vulva are very small asymptomatic filiform or soft, frond-like projections on the vestibular epithelium or the inner aspect of the labia minora.1,2 This normal variant has a smooth surface and similar color to the adjacent mucosa.3 Although common, the condition may be unfamiliar to clinicians and may be misdiagnosed as condyloma acuminata.3

A 39-year-old female presented with multiple papillary projections on the vulva. Three months earlier, she had complained of vulvodynia after childbirth and first recognized multiple grouped papillary projections on the inner left side of the labia minora. These had smooth surfaces and were the same color as the adjacent mucosa (Fig 1, A). At an obstetrics/gynecologic clinic, she was diagnosed as having condyloma acuminata, and at dermatologic clinic she was believed to have Bartholin adenitis. She was prescribed a first-generation cephalosporin (an oral dose of cephradine 1 g a day for 7 days) for the presumed Bartholin adenitis. The vulvodynia improved, but the objective findings remained unchanged without associated itching or tenderness. Dermatoscopy with the DermLite II Pro (3Gen, San Juan, Capistrano, CA) demonstrated a regular, often symmetrical and linear, array of papillae over the vestibule. Individual vestibular papillae were juxtaposed, and their respective bases remained separate. Abundant, irregular vascular channels were observed in the transparent core of the papillae (Fig 1, B). Routine laboratory investigations and potassium hydroxide examinations were normal or negative. An excisional biopsy was performed; this showed anastomosing vascular projections covered by a normal epithelium with no histologic features of viral infection (Fig 2). Polymerase chain reaction

Fig 1. A, Multiple skin-colored, soft, frond-like projections on the left inner aspect of the labia minora. B, Dermatoscopic findings include multiple filiform projections with abundant vascular structures. The bases of the individual projections remain separate.
Vestibular papillae were first described by Altmeyer.\(^4\) Synonyms have included papillomatosis labialis, hirsutie papillaris vulvae, hirsutoid papilloma of vulva, pseudocondylomas, vestibular microwarts, and vulvar squamous papillomatosis.\(^2,4,5\) Moyal-Barranco et al\(^3\) reported that vestibular papillae were not related to HPV infection. Using molecular hybridization, they detected HPV DNA sequences in only two (6.9%) of the 29 specimens of vestibular papillae, compared to 96% of specimens from vulvar warts. Vestibular papillae are now believed to represent an anatomic or functional variant of the normal genital epithelium. They are thought to be present in 1% of women who visit obstetrics/gynecology clinics\(^6\) and are probably the female equivalent of pearly penile papules, the smooth, flesh-colored, and regularly distributed elevations of the corona of the glans penis.\(^7\) If a large number of papillae cover the entire surface of labia minora in a symmetric fashion, the condition is referred to as vestibular papillomatosis.\(^8\) Although vestibular papillae are usually asymptomatic, they are often accompanied by itching, pain, burning, or dyspareunia.\(^8\) In our case, the patient visited the obstetrics/gynecologic clinic for vulvodynia in postpartum period. The lesions remained constant in size and shape after the pain disappeared. These normal anatomic structures could be misdiagnosed as condyloma acuminata, leading to inappropriate treatment.\(^9\) Moyal-Barranco et al\(^5\) suggested five clinical parameters that can be used to differentiate vestibular papillae from vulvar condylomata acuminata (Table I). In our case, we observed rod or teardrop shaped papillae. Individual papillae were juxtaposed, and their respective bases remained separate. We could confirm these findings using dermatoscopy. These clinical criteria differentiated vestibular papillae from condyloma acuminata without the need for HPV typing.

We are unaware of any previous report detailing the characteristic dermatoscopic findings of vestibular papillae versus condyloma acuminata. Dermatoscopy of vestibular papillae reveals abundant and irregular vascular channels in the transparent core of uniform-sized cylindrical papillae, which have separate bases. This differs from the

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**Table I. Clinical differential diagnosis with vestibular papillae and condyloma acuminata**

<table>
<thead>
<tr>
<th>Clinical features</th>
<th>Vestibular papillae</th>
<th>Condyloma acuminata</th>
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</thead>
<tbody>
<tr>
<td>Distribution</td>
<td>Symmetric or linear</td>
<td>Irregular</td>
</tr>
<tr>
<td>Palpation</td>
<td>Soft</td>
<td>Hard</td>
</tr>
<tr>
<td>Color</td>
<td>Pink, same as adjacent mucosa</td>
<td>Pink, white, and red lesions often associated</td>
</tr>
<tr>
<td>Base</td>
<td>Bases of individual projections remain separate</td>
<td>Superficial projections coalesce in a common base</td>
</tr>
<tr>
<td>Acetic acid test</td>
<td>No circumscribed whitening</td>
<td>Whitening in most cases</td>
</tr>
</tbody>
</table>

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**Fig 2.** A, Prominent fibrovascular cores with chronic inflammation and dilated capillaries in the papillary projections. B, High power magnification. Koilocytes are not observed. (Hematoxylin–eosin stain; original magnification: A, ×20; B, ×100.)
dermatoscopic appearance of condyloma acuminata. In our experience, dermatoscopy of condyloma acuminata shows multiple, irregular projections with tapering ends arising from a common base. The projections, whiter and broader than vestibular papillae, have conglomerate vascular structures.

Fig 3. Dermatoscopic findings of condyloma acuminata on vestibule of a 6-month-old girl show multiple irregular projections with tapering ends arising from a common base. The projections, whiter and broader than vestibular papillae, have conglomerate vascular structures.

Because vestibular papillae are unfamiliar to clinicians, they may be misdiagnosed as condyloma acuminata, leading to inappropriate treatment. Dermatoscopy may represent a convenient and helpful modality in the diagnosis of vestibular papillae, especially when they resemble condyloma.

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Funding sources: None.