Pigmented Lesions of the Vulva

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KEYWORDS

• Melanoma • Vulva • Nevus • Pigmented lesion
• Melanosis • Management

Roughly 1 of every 10 women will have a pigmented vulvar lesion in her lifetime.[1,2] Given the risk associated with melanomas and vulvar intraepithelial neoplasia (VIN, squamous cell carcinoma in situ), careful evaluation is critical. In contrast to melanocytic lesions on fully keratinized skin, pigmented lesions on the vulva can appear quite different, both grossly and histologically. Pigmented lesions encompass lesions containing melanin as well as lesions that appear pigmented, but do not contain melanin, such as purpura, vascular lesions, and debris-filled comedones.

This review article outlines an approach to the undifferentiated pigmented vulvar lesion and includes descriptions of the most clinically significant pigmented lesions of the vulva.

EVALUATING THE PIGMENTED VULVAR LESION

Relevant History

Women rarely examine the vulva, so history is of minimal importance. A lesion should be evaluated on its appearance and, when atypical, a biopsy taken, rather than the patient's report of duration and change.

Relevant Clinical Features

Clinical morphology is the primary, initial indicator of risk and abnormality. In addition, some pigmented lesions are more likely to be single, whereas others are more likely to be multifocal.

Diagnostic Tools

As with keratinized skin, skin biopsies are sometimes essential to distinguish benign from malignant growths. Because pigmented lesions on genital skin are less typical morphologically than on extragenital skin, the threshold to biopsy a genital pigmented lesion should be lower. A punch or excisional biopsy, rather than a shave biopsy, should be performed for any potential melanoma, to facilitate diagnosis and measurement of thickness. Borderline histologic results may require consultation with other dermatopathologists with an expertise in the diagnosis of melanocytic lesions.

Dermoscopy can be a useful diagnostic tool in the evaluation of pigmented lesions on nonmodified mucous membranes, but this is a tool not available to nondermatologists, and also this is not used routinely in many dermatology practices. This can be useful for vulvar lesions as well and is discussed in context with the relevant diseases.

DIFFERENTIAL DIAGNOSIS

Physiologic Hyperpigmentation

Different skin types show different degrees of pigmentation on the vulva. Physiologic hyperpigmentation in the vulvar region sometimes is concerning for a disease process when it is outside the range of normal for that skin type (**Fig. 1**). Physiologic hyperpigmentation is normal hyperpigmentation that is most common in individuals who are darkly complexioned; this is accentuated at the posterior introitus, the tips of the labia minora, and the perianal skin. Often there is hyperpigmentation of the hair-bearing labia majora as well. The proximal, medial thighs sometimes exhibit uniform hyperpigmentation that fades to the color of the nonmodified mucous membrane. These lesions are macular and symmetric, with

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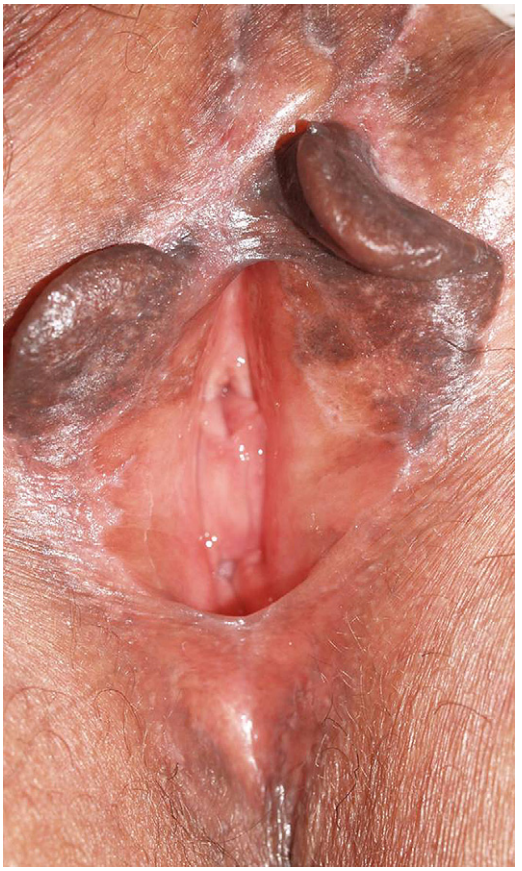

Fig. 1. Physiologic hyperpigmentation occurs most often in darkly pigmented individuals and it is characterized by macular, symmetric hyperpigmentation, often most marked on the labia minora, but sometimes also in the introitus, and perianally. (*Courtesy of* Libby Edwards, MD, Charlotte, NC.)

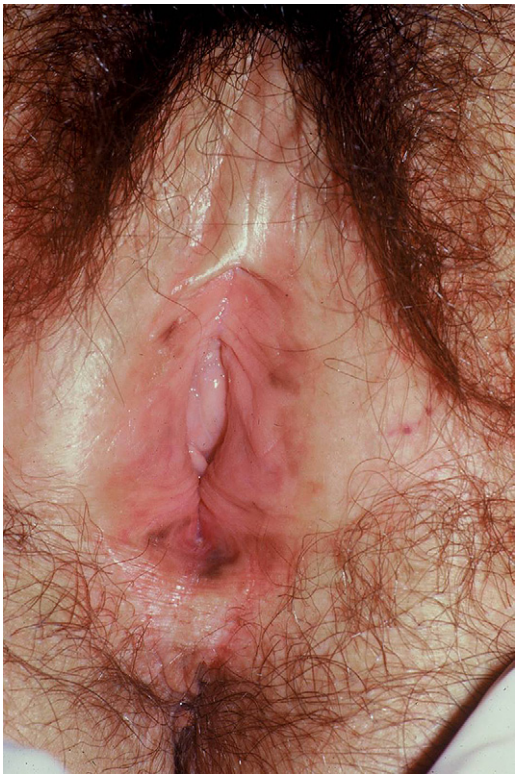

Fig. 2. Postinflammatory hyperpigmentation consists of macular hyperpigmentation occurring in the distribution of a previous inflammatory condition, as has occurred in this woman with lichen sclerosus. (*Courtesy of* Libby Edwards, MD, Charlotte, NC.)

no scale or change in texture from normal skin, and this is asymptomatic. Genital tissue has a higher density of melanocytes than the rest of the body, magnifying the effect of physiologic hyperpigmentation.[3] The degree of hyperpigmentation can change with different hormonal stages, such as adolescence and menopause, as well as pregnancy and contraceptive use. If a biopsy is performed, the melanin content and number of melanosomes of the melanocytes and keratinocytes of the basal layer is higher than normal.[4] Congenital adrenal hyperplasia, Addison's disease, or Cushing's disease can result in hyperpigmentation that is similar in appearance.[4]

Postinflammatory hyperpigmentation

Postinflammatory hyperpigmentation (PIH) occurs in patients of all skin types, including on the vulva, but this is most striking in patients of color (**Fig. 2**). This presents as macules and patches of varying shades of brown, which are usually less symmetric than physiologic hyperpigmentation, and occur most often in a distribution of previous injury or dermatosis. The postinflammatory pigment change in and of itself is asymptomatic, but pruritus can be present with concomitant active inflammation from an underlying skin disease. Causes of PIH include inflammatory skin disease, trauma, dermatologic treatments, and fixed drug eruption.[4]

Signs of associated inflammatory conditions may be, but are not always, present. Lichen sclerosus and lichen planus are relatively common inflammatory dermatoses that sometimes produce striking postinflammatory hyperpigmentation. The basement membrane disruption of these diseases, as well as of fixed drug eruptions and erythema multiforme, are especially likely to create postinflammatory hyperpigmentation because of the characteristic basement membrane damage that allows melanin release into the dermis.[4] If the pattern of the hyperpigmentation is atypical, the diagnosis should be confirmed by biopsy, especially because there