

A Case of Multiple Epidermolytic Acanthoma of the Scrotum: Is the Human Papillomavirus a Culprit?

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Dear Editor:

Epidermolytic acanthoma is a rare benign tumor that was first described in 1970 by Shaprio and Baraf. It usually presents in adulthood as an asymptomatic tumor <1 cm in diameter with a verrucous surface¹. Herein, we report a very uncommon case of multiple epidermolytic acanthoma localized on the scrotum. A 60-year-old man visited our clinic with asymptomatic scrotal dermatosis that was discovered several months ago. He had no significant medical history and denied any triggering factors such as trauma, immunosuppressive therapy, or radiation exposure. Physical examination revealed multiple well-demarcated gray to whitish round papules on the scrotum (Fig. 1). Laboratory tests, including complete blood count, chemical battery, and screening tests for HIV and treponemal disease such as syphilis, were performed. No abnormal finding was found. Skin biopsy showed hyperkeratosis without parakeratosis and a hypertrophic granular layer with numerous keratohyalin granules. Separation and edematous changes in the spinous layer were also observed (Fig. 2). The histopathological findings were consistent with epidermolytic acanthoma. The differential diagnosis included epidermolytic verrucous nevus, bullous congenital ichthyosiform erythroderma, and Vörner's palmo-plantar keratoderma with a rather distinct clinical aspect.

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Fig. 1. Multiple well-demarcated <5 mm gray to whitish round papules on the scrotum.

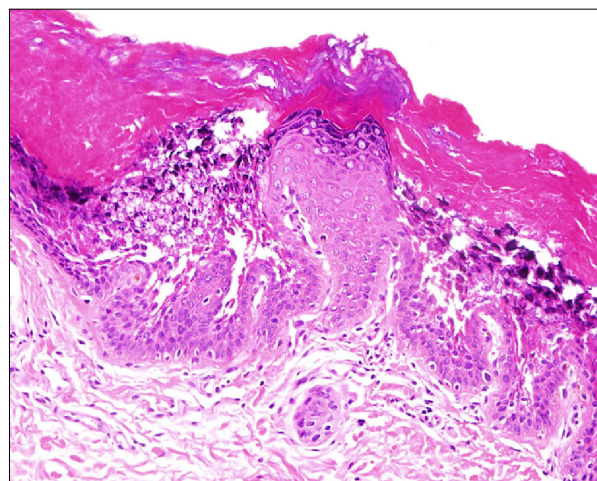


Fig. 2. Compact hyperkeratosis with acanthosis. Perinuclear vacuolization, of variable size, of the keratinocytes in the stratum spinosum and stratum granulosum. The keratinocytes exhibited non-well-defined limits that gave the epidermis a reticulate appearance. Hypergranulosis with coarse keratohyalin granules was also observed (H&E, ×200).

Seborrheic keratoses, solar keratoses, or Bowen's disease could also show some focal changes of epidermolytic hyperkeratosis. We also tested for the presence of the human papillomavirus (HPV) genome by using a novel HPV DNA chip (GG HPVCHIP; Goodgene Inc., Seoul, Korea). The lesion was HPV 16 positive².

Epidermolytic acanthoma is a benign, asymptomatic tumor that usually presents as a solitary papule in adulthood. The multiple or disseminated form was also reported as a rare variant¹. The pathogenesis of epidermolytic acanthoma is not clear. Various contributing factors have been reported, such as HPV, other viral infections, ultraviolet radiation, immunosuppression, trauma, and mutations of genes encoding for keratin 1 and 10³. Although some authors have suggested the role of HPV in the pathogenesis, immunohistochemical and molecular studies had failed to detect a viral genome in the lesions⁴. However, the authors used a conventional method: polymerase chain reaction followed by dot-blot analysis with specific radio-labeled detection probes, which have limitations in detecting and typing HPV. The HPV DNA chip arrayed by using multiple oligonucleotide probes for 42 types of HPV and human β -globin gene, which we used in our case, was recently developed and has been found to be a highly sensitive tool for identifying HPV².

In our case, doubt exists about whether the presence of HPV 16 was only a coincidence, because HPV can be detected in otherwise normal genital skin. Although we could not clarify the possible pathogenic role of HPV in

epidermolytic acanthoma, our case is important because it is the first reported case of HPV detected on skin affected by epidermolytic acanthoma. Although larger studies including several cases are required to prove the possibility, several facts imply the role of HPV in the pathogenesis of epidermolytic acanthoma: its site of predilection is the genital area; it usually has a verrucous surface; and, in a recent report, epidermolytic acanthomas were successfully treated with topical imiquimod, which is also used to treat HPV-induced lesions⁵.

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