

## What Is Your Diagnosis?



An 82-year-old man presented for evaluation of a solitary asymptomatic, pink, velvety, exophytic nodule on the scrotum that had been present for approximately 1 month. His medical history was notable for Parkinson disease, hypertension, and hyperlipidemia. His current medications included carbidopa-levodopa, lisinopril-hydrochlorothiazide, amlodipine, and simvastatin.

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The authors report no conflict of interest.

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## The Diagnosis: Verruciform Xanthoma

Our patient presented with a solitary asymptomatic, pink, velvety, exophytic nodule on the scrotum that had been present for approximately 1 month (Figure 1). Biopsy of the specimen showed a lesion with a verrucalike configuration. There was hyperkeratosis, focal parakeratosis, and verrucous acanthosis without atypia. The papillary dermis was filled with large histiocytes with foamy cytoplasm (xanthoma cells). A few lymphocytes, neutrophils, eosinophils, and plasma cells also were present (Figure 2).

Clinically, the differential diagnosis of this lesion includes verruciform xanthoma (VX), verruca vulgaris, condyloma, verrucous carcinoma, and squamous cell carcinoma; however, the histologic finding of xanthoma cells in the papillary dermis helped to confirm the diagnosis of VX. Specimens must be evaluated closely to rule out associated or concurrent disease processes.

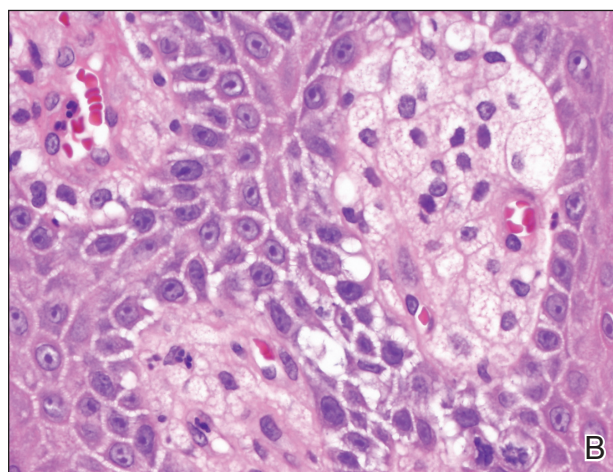
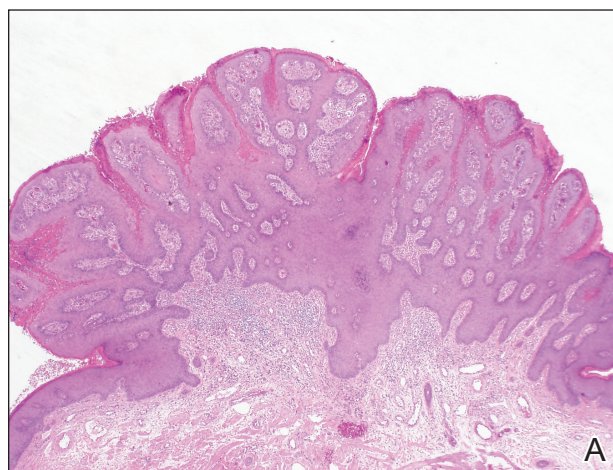
Verruciform xanthoma is a rare lesion first described by Shafer<sup>1</sup> in 1971. It usually appears as a solitary lesion most commonly presenting on the oral mucosa. In 2003, a worldwide survey of the literature profiled a total of 282 oral and 46 extraoral VX lesions.<sup>2</sup> Extraoral cutaneous lesions are less common and usually present in the anogenital region, including the penis, scrotum, vulva, and anus. Isolated cases have been reported on the extremities and other sites.<sup>3,4</sup> The lesions often are described as

pale yellow to pink verrucous papules or plaques. Typical histologic features include hyperkeratosis, focal parakeratosis, acanthosis without atypia, and xanthoma cells in the papillary dermis that usually do not extend beyond the rete ridges.<sup>3,5</sup> A mild inflammatory infiltrate is common with some lymphocytes, plasma cells, neutrophils, and eosinophils.<sup>3</sup>

Several reports have noted that VX does not occur in the presence of any lipid abnormalities or detectable human papillomavirus.<sup>3,6-9</sup> Cases may occur sporadically without any apparent associated disease but also have been seen in the setting of atypia,



**Figure 1.** A solitary pink, velvety, exophytic nodule on the scrotum.



**Figure 2.** Biopsy showed a lesion with a verrucalike configuration (A)(H&E, original magnification  $\times 20$ ). The papillary dermis was filled with xanthoma cells (B) (H&E, original magnification  $\times 400$ ).

malignancy, and inflammatory processes. There are at least 2 reports of VX lesions occurring with squamous cell carcinoma.<sup>5,10</sup> Verruciform xanthoma also has presented in the setting of epidermal nevi, actinic keratosis, seborrheic keratosis, lichen planus, lichen sclerosus, pemphigus, discoid lupus erythematosus, lymphedema, CHILD (congenital hemidysplasia with ichthyosiform erythroderma and limb defects) syndrome, and recessive dystrophic epidermolysis bullosa.<sup>6,7</sup> The association of VX with these other diseases has led many authors to believe that it is a reactive phenomenon to chronic inflammation or cutaneous trauma in which degenerating keratinocytes are phagocytosed by dermal macrophages that then become lipid-laden foam cells. Rapid epidermal growth may be a result of cytokines released during this process.<sup>4</sup>

A Japanese report of several cases of VX with lesions on the scrotum suggested that this rare finding may be caused by chronic pressure associated with the Japanese tradition of sitting on the floor.<sup>11</sup> One case occurred with lesions on the penis and perineum 4 years after an incidence of necrotizing fasciitis and skin grafting in the same area. The authors suggested that the severe cutaneous trauma predisposed the patient to forming VX lesions.<sup>4</sup> There also have been at least 6 cases of VX reported in immunocompromised patients, specifically in the setting of bone marrow transplantation, human immunodeficiency virus infection, common variable immunodeficiency, and renal transplantation.<sup>8</sup> The proportion of immunocompromised cases is greater than expected considering the relatively low prevalence of cutaneous VX lesions. A possible explanation that is consistent with the proposed reactive mechanism for VX formation is that immunocompromised patients may have a lower number of epidermal Langerhans cells, which results in decreased removal of degenerated keratinocytes and increased dermal macrophage phagocytosis.<sup>8</sup>

Management of VX lesions usually consists of simple excision. Intraoral excisions have been well documented as curative with rare recurrence<sup>2,9</sup>; however, there are limited reports in the literature documenting successful excision of cutaneous lesions. Despite

the availability of several treatment modalities (eg, wire loop electrosection, pulsed dye laser, radiation therapy, chloroxylenol scrub, wide surgical resection), lesions may reoccur.<sup>9</sup> Because VX lesions have occurred in the setting of other cutaneous conditions, patients should be assessed for other concurrent diseases. Biopsy specimens should be carefully analyzed, as a few VX lesions have been associated with epidermal atypia and invasive squamous cell carcinoma.<sup>5,10</sup>

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