penis would not be surprising. The low incidence of genital involvement may be owing in part to reluctance of patients such as ours to report genital disease. Health care professionals should be aware of potential varying presentations of this condition because the earlier the underlying neoplasm is diagnosed, the more likely it will be resectable. Appropriate referral for evaluation of the aerodigestive tract should be expedited, and if necessary, exploration for more unusual underlying tumors should be initiated.

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Dramatic Saxophone Penis as a Result of Topical Imiquimod Use

“Saxophone penis” refers to swelling and deformity of the penile shaft secondary to multiple causes, and we report a novel case of imiquimod-induced acute-onset saxophone penis.

Report of a Case | A man in his 50s presented for evaluation of biopsy-proven condylomata acuminata. Treatment options were discussed, and he started therapy with topical applications of imiquimod, 5%, with instructions to apply the medication 3 times weekly at night and wash it off in the morning. Despite redness, swelling, and burning pain within 1 day of starting imiquimod treatment, he continued to use the medication as his symptoms progressively worsened.

Seventeen days after starting imiquimod treatment, he reported painful erythema and swelling that was limiting his ability to walk, sit, or bathe. On physical examination, the penis was tender and brightly erythematous with profound edema encompassing much of the shaft and all of the prepuce and glans penis, causing the penis to curve to the right and obliterating the ability to visualize the condylomata. Just left and lateral to the urethral meatus was a superficial erosion with minimal crust due to trauma from the zipper on his pants. Mild scrotal edema was noted. These findings were consistent with a “saxophone penis” (Figure, A).

Imiquimod therapy was discontinued, and a 12-day oral prednisone taper starting at 40 mg/d was initiated. Cool compresses, dilute bleach baths, and topical mupirocin and metronidazole were also recommended. In follow-up 3 days later, he had significant improvement in his pain, redness, and swelling (Figure, B). Wound culture grew methicillin-sensitive Staphylococcus aureus. He had resolution of his symptoms at completion of his prednisone taper despite failure to initiate bleach baths or use the topical antibiotics.

Figure. Imiquimod-Induced Saxophone Penis Before and After Prednisone Treatment

A. The penile deformity involved curvature resembling that of a saxophone and resulted from edema following imiquimod use for condylomata. B. After a prednisone taper, the swelling, erythema, and pain quickly resolved, although the condylomata were still present.
Discussion | The term “saxophone penis” generally describes a physical examination finding of pronounced curvature and deformity of the penis along its longitudinal axis. Another synonym is “ram horn penis.” The exact mechanism of this deformity is unknown and may vary depending on acute or chronic occurrence. One proposed explanation describes contraction, and in some cases fibrosis, of the connective tissue on the dorsal side, creating a dependent ventral side, which has richer vascularity and can lead to edema and exaggerated dorsal curvature.

While there are many potential causes of saxophone penis findings, they are generally limited to conditions affecting penile lymphatics or vessels. Infectious causes include lymphogranuloma venereum, S. aureus, and mycobacterial infections. Other potential causes may include primary lymphedema and, theoretically, trauma secondary to penile fracture. Although our patient had superficial infection with S. aureus, his dramatic improvement despite lack of antimicrobial treatment would support an inflammatory reaction to imiquimod as opposed to a primary bacterial infection.

Imiquimod, 5%, cream is a topical immunologic therapy approved for the treatment of external genital warts, superficial basal cell carcinomas, and actinic keratosis. A wide spectrum of cutaneous adverse effects have been associated with topical imiquimod through an increase in T helper 1 cytokines, including hypopigmentation and vitiligo, lichen planopilaris, lupus erythematosus-like reactions, pemphigus-like skin lesions, urticaria, and angioedema.

Before initiating imiquimod therapy, physicians should thoroughly counsel patients about the potential adverse effects and should provide specific guidelines as to when to contact the prescribing physician. As with our patient, the use of imiquimod resulting in saxophone penis deformity may cause considerable physical discomfort and emotional distress and in some cases may be functionally incapacitating if left untreated.

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Telaprevir-Induced Acquired Perforating Dermatosis

Since its approval in 2011, a novel serine protease inhibitor, telaprevir, has been increasingly used in combination with pegylated interferon and ribavirin as an effective treatment for chronic hepatitis C virus (HCV) infection. However, it was found to cause cutaneous eruption, mostly pruritic eczematous dermatitis, in 56% of patients as opposed to 34% of patients taking peginterferon and ribavirin alone. Moreover, severe adverse cutaneous events were reported to be more frequent in telaprevir-treated patients (3.7% vs 0.4%). We report herein the first case to our knowledge of acquired perforating dermatosis (APD) induced by telaprevir in a patient with HCV infection.

Report of a Case | A man in his 50s with HCV infection was referred for pruritic ulcerated papules on the lower legs. The lesions appeared 3 weeks after the patient started treatment with telaprevir (2250 mg/d orally) (Janssen-Cilag) in combination with ribavirin (1200 mg/d orally) (Hoffman-LaRoche) and pegylated interferon alfa-2a (180 μg/wk subcutaneously) (Hoffman-LaRoche). He had previously been treated with peginterferon and ribavirin without cutaneous adverse effects. Blood test results for human immunodeficiency virus (HIV) were negative. Serum α-fetoprotein level was normal, and abdominal computed tomography did not show evidence of hepatocellular carcinoma. He had no diabetes mellitus or chronic kidney failure and was taking no other medication.

Physical examination revealed extensive xerosis and ulcerated papular and nodular lesions on the lower legs, each with an inflammatory border and a central keratotic plug (Figure 1). Histologic examination of a lesion specimen revealed a focal epidermal ulceration covered by a hyperkeratotic crust containing necrotic debris and inflammatory cells. Collagen bundles and elastic fibers oriented perpendicularly to the surface were extruded through the epidermis (Figure 2). A diagnosis of APD was rendered. Telaprevir therapy was discontinued, and the patient was treated with 1 application per day of betamethasone dipropionate and petroleum jelly (Vaseline; Unilever), with slow but progressive improvement observed within 2 weeks and no new lesions. All lesions entirely resolved within 2 months, leaving pigmented and atrophic scars.

Discussion | In our observation, APD was quite likely secondary to telaprevir treatment, given the delayed onset of lesions, the improvement after treatment discontinuation, and the prior benign treatment course with pegylated interferon alfa-2a and ribavirin.

Acquired perforating dermatosis has been associated with several diseases, including diabetes mellitus, chronic renal failure, malignant conditions and AIDS. Rare observa-