

## Incapacitating Pseudoverrucous Papules and Nodules: Cure by Shave Excision

To the Editor:

We describe a paraplegic patient with long-standing nodules of 13 years' duration on the lower trunk and extremities that had become exquisitely painful 2 weeks prior to presentation. The patient represented a diagnostic and therapeutic dilemma.

A previously independent 78-year-old woman with paraplegia was flown to our emergency department with incapacitating painful nodules in the inguinal area and lower extremities that rendered her bedridden because it was too painful to transfer her from a bed to her wheelchair. Her paraplegia was attributable to poliomyelitis and affected her from the waist down; she was fully continent and had no sensory deficits. Earlier treatment attempts included topical antifungals and corticosteroids, oral prednisone, dapsons, colchicine, and acitretin. The etiology of these nodules was unknown.

Physical examination showed tender, discrete, scattered, verrucous nodules with surrounding erythema and oozing on the lower abdomen, pubic region, inner thighs, buttocks, and lower extremities (Figure 1). Biopsy specimens showed impetiginized serum crust with pseudoepitheliomatous hyperplasia and mixed dermal inflammation (Figure 2A). Fungal stains, *in situ* hybridization for human papillomavirus, direct and indirect immunofluorescence assays, and tests for desmoglein 1 and 3 antibodies were negative.

Tissue cultures showed only bacterial organisms consistent with the observed impetiginization.

Special nerve stains were conducted and showed a virtual absence of epidermal nerve fibers, similar to small fiber neuropathy. Increased neuropeptide-containing nerve fibers were present in the papillary dermis (Figure 2B).

The patient was admitted to the inpatient dermatology unit and received intensive antiseptic wet dressings. Multiple nodules were removed with shave excision. The patient reported immediate relief of symptoms. At a 4-month follow-up visit, she showed marked improvement and once again was fully independent.

What did these nodules represent? Clinically, we believe this case is an atypical presentation of pseudoverrucous papules and nodules given the absence of incontinence and the involvement of the lower extremities.<sup>1</sup> We hypothesize that her paraplegia and evidence of small fiber neuropathy played a role in this atypical clinical presentation. Other differential diagnoses included granuloma gluteale, pyoderma vegetans, pemphigus vegetans, blastomycosislike pyoderma, atypical mycobacterial or deep fungal infections, and prurigo nodularis. The histopathologic findings, negative direct immunofluorescence studies, and negative fungal and mycobacterial cultures eliminated pyoderma vegetans, pemphigus vegetans, and atypical mycobacterial or deep fungal infections. Considering the lasting nature of these lesions and the absence of abscesses, blastomycosislike pyoderma<sup>2</sup> was an unlikely etiology. Histologic findings showed some features of prurigo nodularis, but these lesions did not demonstrate characteristic clinical findings and epidermal nerve fibers were decreased, which contrasts with findings previously reported for prurigo nodularis.<sup>3</sup> Therefore, our impression is that our patient illustrates an atypical presentation of pseudoverrucous papules and nodules.

This case demonstrates that atypical pseudoverrucous papules and nodules may occur in patients with paraplegia, even those without incontinence. When

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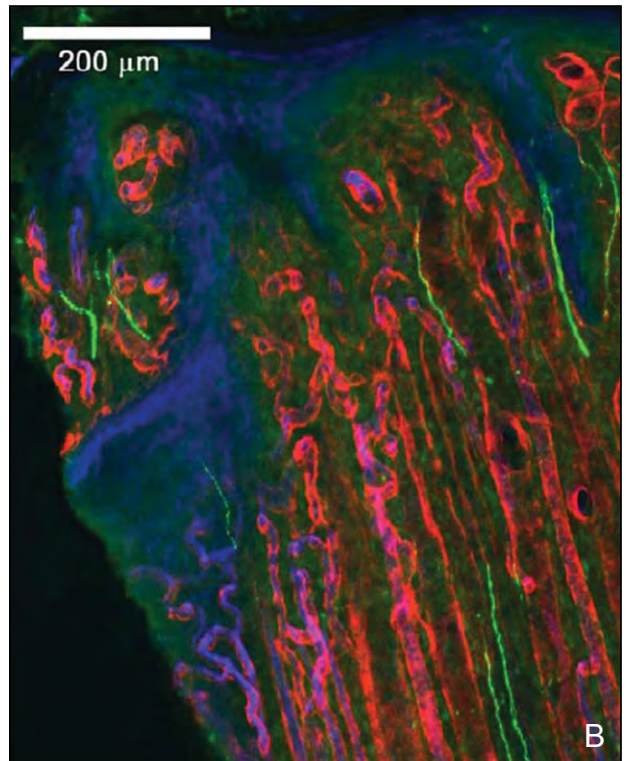
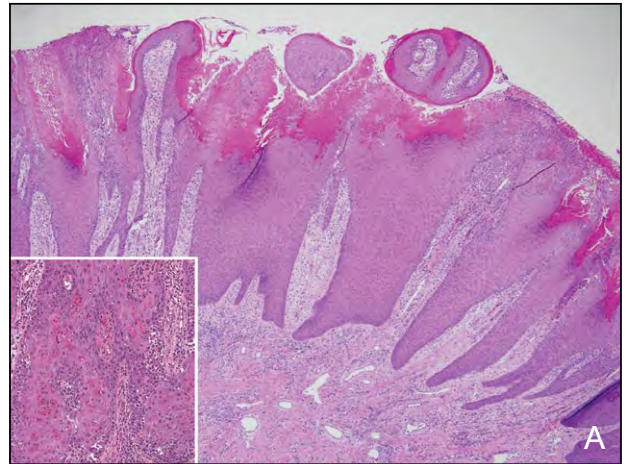
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The authors report no conflict of interest.

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**Figure 1.** Oozing, tender, raised, erythematous, verrucous plaques on the lower abdomen and pubic region (A) and inner thighs and buttocks (B). Discrete erythematous plaques were scattered over the lower extremities (C).



**Figure 2.** Confocal microscopy revealed pseudoepitheliomatous hyperplasia with impetiginized serum crust (A) (H&E, original magnification  $\times 20$ ). High-power magnification showed similar changes (H&E, original magnification  $\times 100$  [inset]). Examination of superficial skin with epidermis and dermal papillae revealed nerves (protein gene product 9.5 [green]) extending to near the tips of most papillae but not into the epidermis (ulex europaeus [blue]) (B) (original magnification  $\times 10$ ). Capillaries (type IV collagen stain [magenta]) were twisted and distorted. Their extremely complex profile occupied most of the volume of the papillae. Although type IV collagen clearly was seen in the complex capillary loops, the dermoepidermal junction was not clearly distinguished.

the nodules become irritated, they can cause incapacitating pain in patients without sensory deficit. For our patient, shave removal of the irritated nodules was a successful intervention and was associated with restoration of daily independent living.

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