CASE REPORT

CE 1.0 Contact Hour

A Case of Verrucous Psoriasis

Artem Sergeyenko, Tiffany Clay, Aibing Mary Guo

ABSTRACT: Psoriasis is a common, complex immune-mediated disease that may present with several clinical variants. Some of these variants include plaque-type psoriasis vulgaris and pustular, erythrodermic, and guttate psoriasis. We are presenting a case of the verrucous variant, a rare atypical presentation of psoriasis.

Key words: Psoriasis, Verruca Vulgaris, Verrucous Psoriasis, Psoriasis Verrucosa, Psoriasis Variants, Human Papilloma Virus

CASE REPORT

A 53-year-old African American woman with a history of asthma, hypertension, and arthritis presented to a clinic for a complaint of verrucous growths for 1 month that initially began on the hands and eventually spread to the left knee, left elbow, and plantar feet bilaterally. She denied pruritus. She failed prior therapy with salicylic acid from her primary care physician. Her current medications were metoprolol and lisinopril; she denied any recent changes to her medication regimen. On examination, the patient had hyperpigmented verrucous papules and plaques overlying the left elbow, left knee, sacral area, and bilateral hands (as in Figures 1–3, respectively). The preliminary differential diagnosis included verruca vulgaris, hypertrophic lichen planus, and psoriasis.

A shave biopsy was performed on the left elbow, and a 4-mm punch biopsy was done on the left knee. The biopsy of the left knee showed psoriasiform hyperplasia of the epidermis, thinning of the suprapapillary plates, and a diminished granular layer, as in Figure 4. The horny layer was found to contain areas of compact, confluent parakeratosis with collections of neutrophils. The papillary dermis showed dilated, tortuous loops and a superficial perivascular lymphocytic infiltrate. There was also focal digitated hyperplasia, hypergranulosis, vacuolated granular layer cells, and compact hyperorthokeratosis, as in Figure 5. The biopsy of the left elbow showed very similar histologic findings. The concluding diagnosis of the pathologist postulated that the diagnosis was likely psoriasis superinfected with human papilloma virus but that the hypergranulosis of the lesions may have been secondary to the anatomic location of the biopsies.

The patient was diagnosed with verrucous psoriasis (VP) and originally offered intralesional triamcinolone acetonide injections, but she refused because of needle phobia. She was then started on topical tazarotene cream in the morning and clobetasol proprionate cream at night under occlusion. Unfortunately, we were unable to track her progress because she was lost to follow-up.

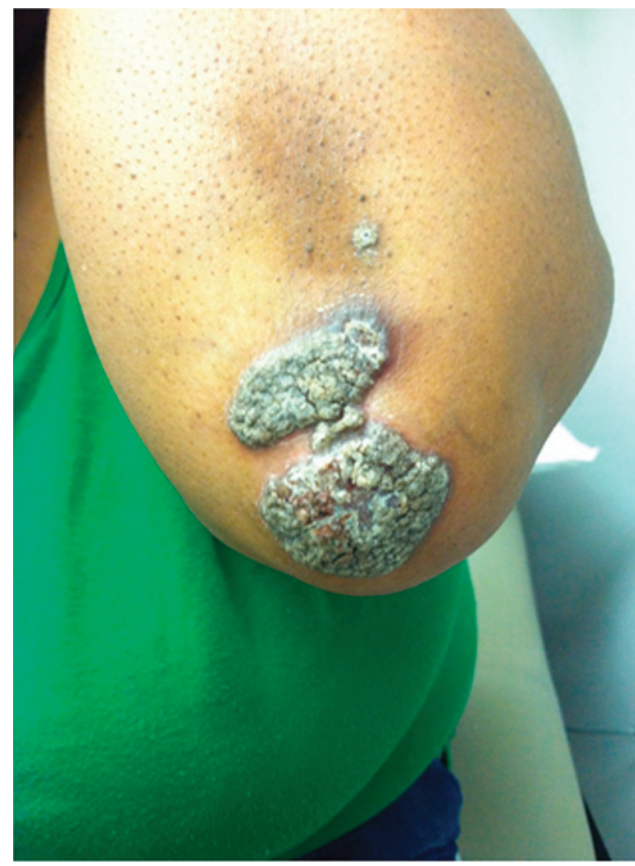

FIGURE 1. Hyperkeratotic plaques on the elbow.

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The authors declare no conflict of interest.

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DISCUSSION

Psoriasis is a common inflammatory dermatosis with several different variants. It is estimated to affect approximately 2% of the population in the United States (Langley, Krueger, & Griffiths, 2005). The typical presentation of a psoriasis plaque histologically shows regular elongation of the rete ridges and thickening of the lower portions as well as thinning of the suprapapillary epidermal plate, neutrophilic exocytosis, collections of neutrophils in the parakeratotic layers (Munro's microabscesses), focal or confluent parakeratosis, and decreased or absent granular layers (Elder & Lever, 1997; Stern, 1997).

VP, also called psoriasis verrucosa, is a rare form of psoriasis, which shares overlapping features with other common diseases. In a 12-case series on the condition, it was found to affect seven men and five women, at an average age of 61.8 years, with lesions most often over the extensor surfaces of the upper and lower extremities; the knee was affected in 50% of cases, the elbow was affected in 33%, and the hand was affected in 17% (Khalil, Keehn, Saeed, & Morgan, 2005). The histologic examination of VP shows features that are common to both verruca vulgaris and psoriasis, and VP may manifest with hyperkeratosis, Munro's microabscesses, spongiosis, parakeratosis, and thinning of the granular layer as well as papillomatosis with dermal vascular dilation and perivascular lymphocytic infiltration (Elder & Lever, 1997; Stern, 1997).

More specifically, the papillomatosis, epithelial buttressing, and absence of infection are suggestive of VP, rather than psoriasis vulgaris, as the underlying diagnosis in our patient. Similarly, koilocytic changes and epidermal acanthosis would need to be present on histology

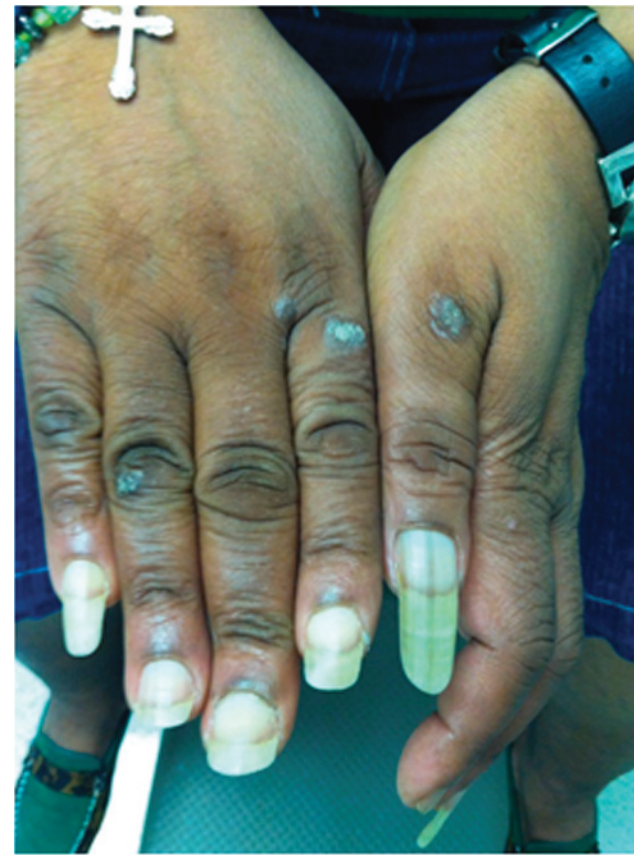

FIGURE 3. Hyperkeratotic papules on the hands.

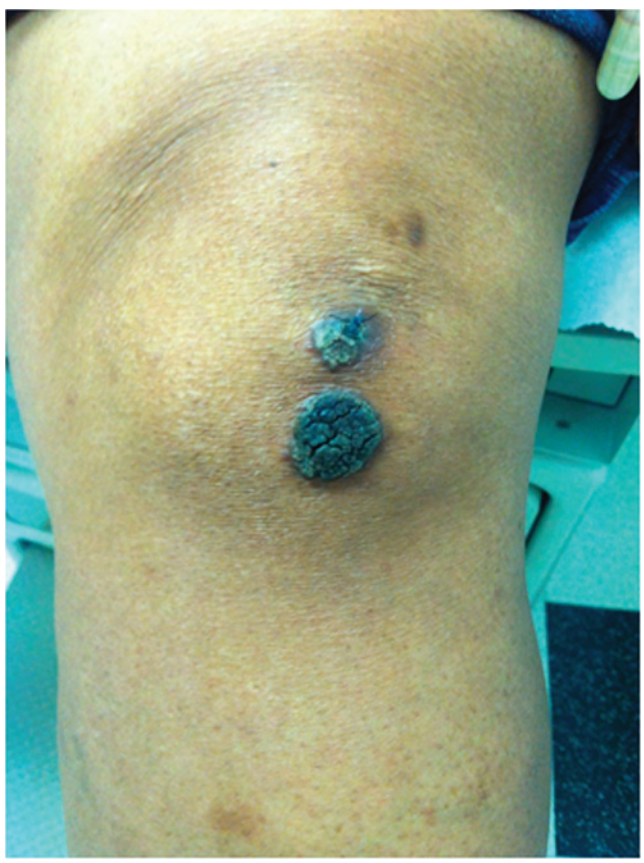

FIGURE 2. Hyperkeratotic plaques on the knee.

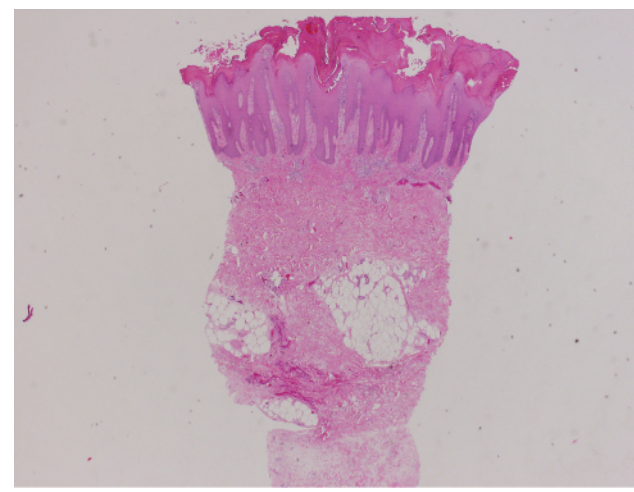

FIGURE 4. Punch biopsy showing psoriasiform hyperplasia and hypogranulosis (Hematoxylin and Eosin (H&E), 2×).

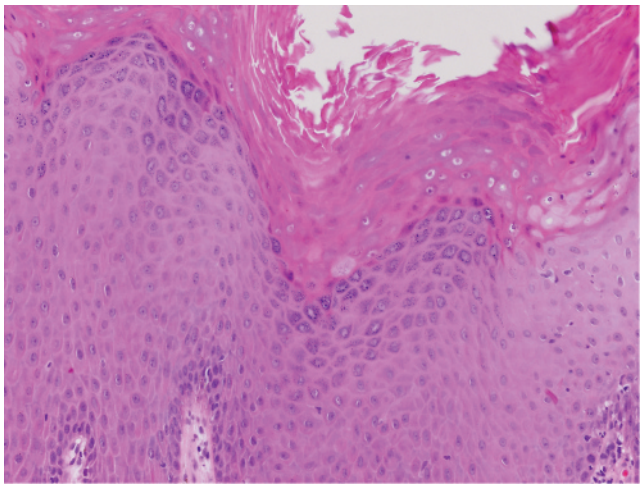

FIGURE 5. Focal area showing compact hyperorthokeratosis, hypergranulosis, and vacuolated granular layer cells (Hematoxylin and Eosin (H&E), 20×).

to suggest a diagnosis of verruca vulgaris (Khalil et al., 2005; Nakamura, Mihara, Hagari, & Shimao, 1994).

Lesions such as prurigo nodularis or lichen simplex chronicus may also become confused with VP, but those entities often have a patterned response occurring secondary to repeated, often self-inflicted irritation and subsequent trauma. Contact dermatitis, nummular eczema, and atopic dermatitis would be more likely to have spongiosis as a predominant feature on histopathologic examination accompanied by scale crust with coagulated serum and eosinophils present in the inflammatory infiltrate.

Several risk factors have been postulated in the development of VP. It has been suggested that diabetes mellitus may be a predisposing risk factor for developing VP due to the underlying microangiopathy and macroangiopathy associated with diabetes (Kwazebart & Bechner, 1962). However, others suggest that the disturbance of perivascular circulation from phlebitis or impaired pulmonary function may result in local anoxia, which results in the stark hyperkeratosis associated with VP (Bommer, 1952). Our patient did not have diabetes, phlebitis, or impaired pulmonary function that could be associated with VP.

Treatment of VP is not standardized, and studies of efficacy mainly rely on the limited number of case reports from the literature. Several case reports of Japanese men with VP being successfully treated with oral etretinate have also been reported (Okuyama & Tagami, 2006; Wakamatsu, Naniwa, Hagiya, Ichimiya, & Muto, 2010). It is believed that oral etretinate was effective due to the pronounced hyperkeratosis in those lesions. Another case report shows a favorable response of VP to adalimumab (Maejima, Katayama, Watarai, Nishiyama, & Katsuoka, 2012). These represent possible systemic treatment options for our patient should she return to the practice with persistent disease. ■

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