Denouement and Discussion

Palmoplantar Psoriasis

This patient presented with chronic palmoplantar papulosquamous dermatitis. The differential for this condition includes palmoplantar psoriasis, atypical juvenile pityriasis rubra pilaris, palmoplantar keratoderma, and extensive dermatophyte infection. A skin biopsy with additional histological staining for dermatophyte elements can help distinguish between these entities. A skin punch biopsy was performed for this patient, and the results showed epithelial hyperplasia, loss of the granular skin layer with prominent dermal capillaries, and a mixed dermal infiltrate of lymphocytes, macrophages, and neutrophils, all consistent with hyperkeratotic palmoplantar psoriasis.

Psoriasis is a chronic autoimmune disease of the skin that is often diagnosed clinically. The lesions are sharply demarcated with clear-cut borders, and typical lesions appear as erythematous plaques with a thick white-silvery scale. When this scale appears on the palms of the hands and the soles of the feet, it often looks more yellow in color. Patients with psoriasis can also have manifestations outside of the skin, including nail changes (ie, thickened dystrophic nails and nail pitting), as well as arthritis.[1]

Palmoplantar psoriasis primarily affects the palms of the hands and the soles of the feet, and it has 3 distinct phenotypes: hyperkeratotic, pustular, and mixed hyperkeratotic and pustular forms.[2] The hyperkeratotic form is often associated with classic psoriatic plaques elsewhere on the body, whereas the pustular form rarely affects areas outside of the hands and feet. The genetic underpinnings of these different phenotypes are distinct because the pustular form does not have the well-known association with mutations in the *PSOR1* gene locus.[3] Overall, both variants can be challenging to treat, especially since small microinjuries can lead to the Koebner phenomenon, which can be somewhat resistant to treatment. However, palmoplantar pustulosis is especially difficult to treat because there is little evidence for the efficacy of any treatment in this subtype and no published guidelines for its management. In either form, the hand and foot lesions typically affect less than 5% of body surface area but can have severe effects on quality of life. In the past, it was called "recalcitrant eruption of the palms and soles" because of the difficulty in treatment.[2] The appropriate diagnosis and treatment of this disease are important because it can lead to physical dysfunction and disability if left unattended.

Palmoplantar psoriasis can be managed with a combination of topical therapies as detailed earlier, including corticosteroids, salicylic acid, and tar. This patient was initially treated with topical therapies because he was young and treatment-naive. He received a combination of triamcinolone acetonide, 0.1% (a midpotency topical steroid medication), and urea cream, 10% (a topical keratolytic medication). Steroids are a mainstay of many dermatologic conditions but are often used for short bursts; in general, hands and feet have thick skin, so midpotency to high-potency topical steroids can be used for 4 to 6 weeks with appropriate breaks in between. Lower potency topical steroids with bland emollients or alternate nonsteroid mediations can be used during periods when there is no flare-up of the condition. Keratolytics, such as urea and topical vitamin D analogues (eg, calcipotriol), are often used to decrease the level of scaling, reduce inflammation, and allow penetration of the topical steroids. The patient in this case improved significantly within 1 week of treatment initiation, with less redness, scaling, and pain, and did not require intensified therapy. Phototherapy and, in particular, topical psoralen in combination with UV-A has been successful for more recalcitrant disease. Methotrexate sodium, oral retinoids, biologics such as etanercept and alefacept, and short courses of cyclosporine have also been documented as effective for severe recalcitrant palmoplantar psoriasis.[4] In a retrospective review of treatment responses of palmoplantar psoriasis,[5] one group showed that, although topical agents remain the most widely used treatment modality, the disease is frequently resistant to topical therapies and may require multiple systemic agents.

Because of its chronicity and location, palmoplantar psoriasis can have a significant effect on activities of daily living, much more so than other forms of psoriasis. Therefore, it is important for the general pediatrician to be able to identify palmoplantar psoriasis and treat appropriately.

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