White scale sign for xeroderma

Klemmer, Amrei ; Anzengruber, Florian ; Kazakov, Dmitry ; Navarini, Alexander A

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Letters

RESEARCH LETTER

White Scale Sign for Xeroderma

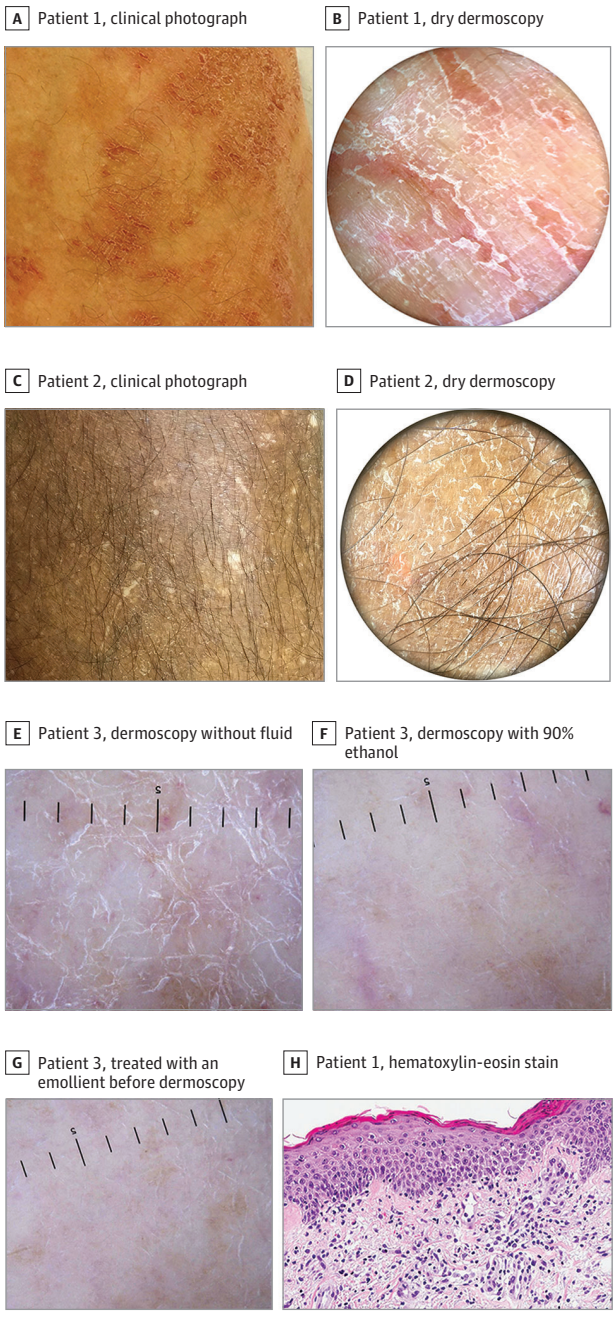
Xeroderma, also known as xerosis cutis, is a common condition that has become ever more important to diagnose in light of the number of aging patients. The condition is frequently seen among the elderly, but it has also been observed in younger patients affected by atopic dermatitis.[1] The clinical features of xeroderma are flaky, dry, and cracked skin areas. Potentially because of its high frequency, xeroderma lacks diagnostic criteria and signs. Most clinicians tend to wait to make the diagnosis of xeroderma until they see several skin areas are flaky, dry, and cracked, and this tendency to delay the diagnosis until the condition is full-blown is unnecessary. Clear-cut, microscopic, early signs are therefore required. We propose a dermoscopic sign that, in our experience, invariably appears in pathologically dry skin areas.

The brunt of the pathologic changes in xeroderma is in the stratum corneum and epidermis. Single corneocytes shed from the surface during the physiologic process of renewal are normally invisible. In xeroderma, however, because the normal process of shedding and removal of intercellular adhesion is disturbed,[2] whitish scales form. This effect of scale production starts microscopically, usually on the shins, and later spreads to the thighs, proximal extremities, and trunk. The seborrheic areas of the body are always spared. When the intensity is reached that is clinically obvious, branlike scales are shed in large amounts that can form dusty clouds when patients remove their stockings. This clinically obvious scaling, together with pruritus, is what finally prompts most clinicians to recognize xeroderma. Subsequently, cracks and fissures of the stratum corneum can develop, along with asteatotic eczema that causes dull, chronic inflammation. Histologic studies reveal little alteration of stratum corneum, nor epidermis,[3] early on. In later stages, eczematous changes (eczema craquelé) develop.

Methods | Overall, we included 11 patients (6 women aged 26 to 82 years and 5 men aged 67 to 87 years) in the study, which we conducted between March 1, 2015, and April 1, 2016. The study was approved by Kantonale Ethikkommission Zürich and written patient informed consent was obtained.

Results | In xerotic areas of any size, stage, and race, white scales were always detectable in dermoscopy (**Figure**, A-D). We call this occurrence the *white scale sign* (WSS). These scales were large amounts of corneocytes that stuck together and were only visible by dermoscopy on dry skin (Figure, E). On moist skin, however, such as when ethanol was applied for dermoscopy (Figure, F), the white scales disappeared at once. When dry skin was treated with emollients at the locus of a positive WSS, the white scales disappeared 15 minutes later (Figure, G). Thus, the

Figure. White Scales in Xeroderma Detectable by Dry Dermoscopy



Xeroderma (XD) with features of beginning asteatotic eczema, Fitzpatrick skin type II: A, Clinical view. B, Dermoscopy (original magnification ×10). XD, Fitzpatrick skin type IV: C, Clinical view. D, Dermoscropy (original magnification ×10). E, Dermoscopy without fluid (original magnification ×10). F, Dermoscopy with 90% ethanol. G, Dermoscopy with an emollient applied 15 minutes before. H, Dermatopathology showing focal parakeratosis, spongiosis, lymphocytic exocytosis, and scarce lymphohistocytic infiltrate in the upper dermis.

WSS was useful in detecting xeroderma on native, untreated skin. The histopathological features of a biopsy specimen taken in a spot of xeroderma with a positive WSS showed parakeratosis and features of eczema (Figure, H).

Discussion | We have taken a positive WSS as a cue to discuss and usually prescribe emollients. Many patients are not aware that they are affected by xeroderma. In our experience, the WSS revealed the condition in many cases; clinically, xeroderma would have been missed because of the absence of widespread and clinically obvious scaling. Xeroderma occurs not only in old age[4,5] but also among younger adults with eating disorders, HIV infection, essential fatty acid deficiency, atopic dermatitis, and many forms of ichthyosis. Scaling without xeroderma is usually temporary and can occur after inflammatory rashes. As yet, few to no clinical criteria for detecting and diagnosing xeroderma exist. We propose that clinicians look for the WSS in patients of all ages. The WSS can contribute to the detection and diagnosis of xeroderma and thus allow suitable treatment before asteatotic eczema develops.

Amrei Klemmer, MagDr
Florian Anzengruber, MD
Dmitry Kazakov, MD
Alexander A. Navarini, MD, PhD

Author Affiliations: Department of Dermatology, University Hospital of Zurich, Zurich, Switzerland.

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Corresponding Author: Alexander A. Navarini, MD, PhD, Department of Dermatology, University Hospital of Zurich, Gloriastrasse 31, 8091 Zurich, Switzerland (alexander.navarini@usz.ch. Twitter and Instagram: @AlexNavarini).

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