Blaschkolinear acquired inflammatory skin eruption, or blaschkitis, with features of lichen nitidus

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INTRODUCTION

Blaschkolinear acquired inflammatory skin eruption (BLAISE) encompasses a variety of skin conditions in children and adults that show striking distribution along the lines of Blaschko and are characterized histopathologically by an inflammatory infiltrate. The most common presentations of BLAISE are blaschkitis, which affects adults, typically along multiple lines of Blaschko on the trunk, and lichen striatus, which is more commonly seen as a linear dermatosis on the extremities of children. More rarely, dermatoses such as lichen nitidus, illustrated by our patient, can also fit within this spectrum.

CASE REPORT

A 42-year-old Korean man presented with a 2-week history of multiple small papules on his right dorsal hand and forearm, which then spread proximally to the right side of his neck. He experienced minimal pruritus and was in good health. He had no new exposures to the area or recent illnesses and had not attempted treatment. No personal or family history of similar lesions, skin cancer, atopy, or psoriasis was discovered.

Physical examination revealed hundreds of flat-topped, flesh-colored to hyperpigmented, 1- to 3-mm papules, coalescing into plaques, with surrounding ill-defined erythema and slight scale. The lesions were distributed in a linear and whorled pattern on his right dorsal hand, arm, shoulder, and neck (Figs 1-3). A punch biopsy was performed on a representative lesion (Fig 4). The diagnosis of BLAISE or blaschkitis was made.

Abbreviation used:

BLAISE: blaschkolinear acquired inflammatory skin eruption

MICROSCOPIC FINDINGS AND CLINICAL COURSE

Microscopic examination found lichenoid interface inflammation comprised of a lymphohistiocytic infiltrate with cytoid bodies at the dermal-epidermal junction and bracketed by collarettes of epidermal acanthosis, most consistent with lichen nitidus. No adnexal inflammation was noted. The patient was started on clobetasol cream twice daily for 2 weeks, and the lesions thinned over time.

DISCUSSION

Blaschko lines are distinctive whorled and linear patterns on the skin first described by the dermatologist Alfred Blaschko in 1901. Numerous skin conditions, including genodermatoses, nevi, and inflammatory disorders can present along Blaschko lines. This distinctive pattern is a manifestation of cutaneous mosaicism that can result from numerous genetic pathways, including lyonization in X-linked disorders, somatic mutation or epigenetic alteration in sporadic conditions, chromosomal nondisjunction, or loss of heterozygosity.[1] The aberrant cell line migrates along the normal pathways of ectodermal development during embryogenesis, forming the characteristic lines.[1,2]

Blaschkitis is an acquired inflammatory dermatitis that some consider an adult variant of lichen striatus.

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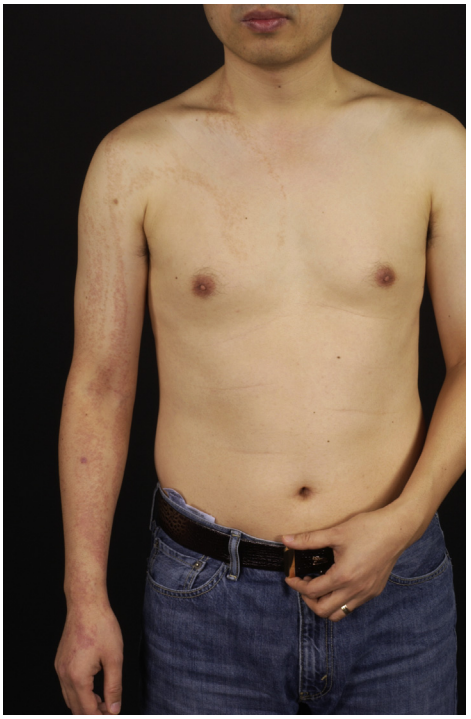

Fig 1. Linear and whorled plaques on the hand, arm, shoulder, and neck.

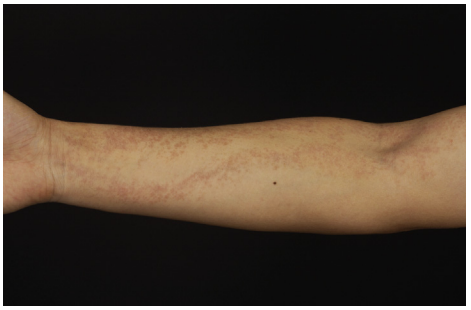

Fig 2. Erythematous papules in a linear and whorled pattern on the right arm.

In 1990, Grosshans proposed that blaschkitis was distinct from lichen striatus, identifying several criteria by which the 2 differ, including typical patient age, distribution, time course, and histopathology.[3,4] In this view, blaschkitis primarily affects adults, forms multiple lines, and is typically located on the trunk. Its time course is rapid, with spontaneous resolution within 2 months. On histology, blaschkitis features spongiotic dermatitis. Lichen striatus, however, primarily affects children, forming single lines along an extremity, and spontaneously resolves over months to years. Lichen striatus may also show spongiosis in addition to lichenoid and periadnexal inflammation.

There are reported cases of blaschkitis occurring in children and lichen striatus occurring in adults, showing an overlap in the clinical and histologic

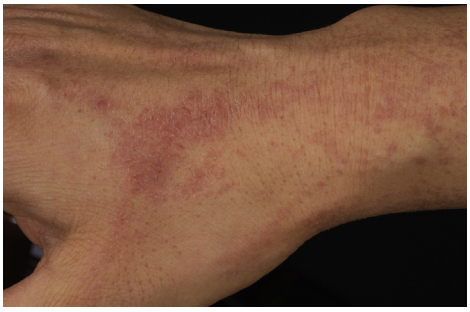

Fig 3. Erythematous scaly papules and plaques on the dorsal part of the hand.

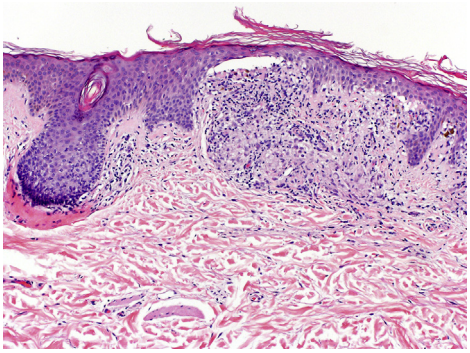

Fig 4. Histopathology findings show a lichenoid interface inflammation comprising a lymphohistiocytic infiltrate at the dermal-epidermal junction and bracketed by collarettes of epidermal acanthosis. (Hematoxylin-eosin stain.)

features of these conditions.[2,5] This finding has led to consideration of these conditions within a spectrum of BLAISE.[5,6] This category encompasses blaschkitis and lichen striatus and the rare blaschkoid and linear presentations of several other common inflammatory dermatoses, including lichen nitidus, lichen planus, atopic dermatitis, graft-versus-host disease, lupus erythematosus, and psoriasis.

Linear lichen nitidus is rarely reported.[7,8] In the case reported here, we considered several diagnoses, including BLAISE and asymmetric periflexural exanthema of childhood. Asymmetric periflexural exanthema of childhood is rarely reported in adults and is typically characterized by a dermal lymphocytic infiltrate and unilateral rash that does not follow lines of Blaschko. Our adult patient had a clinical presentation consistent with blaschkitis, with histopathology of lichen nitidus. We believe this illustrates the utility of the spectrum of BLAISE to encompass and categorize a variety of clinically unique dermatoses.

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