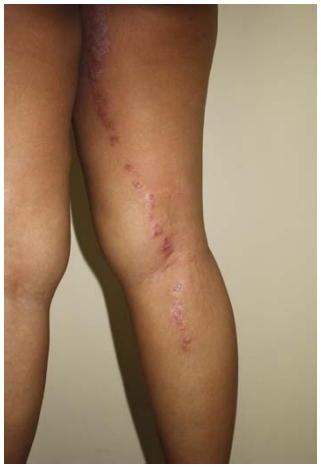
Case 16
A 16 year-old Thai female from Bangkok

Chief complaint: Multiple scaly erythematous plaques on posteromedial aspect of right thigh for 1 year.


(Fig. 16.1)

Present illness: She presented with a 1-year history of asymptomatic scaly erythematous plaques located on medial aspect of right thigh. The plaques were progressively extended to posterior aspect of right leg in linear pattern. There was no improvement after treatment with topical medication for 9 months.

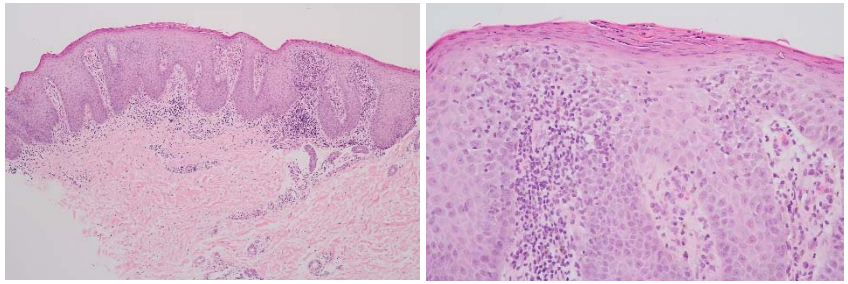
Past history: She has no underlying disease and no history of previous trauma.

Family history: There was no family history of psoriasis.

Physical examination: Unremarkable

Dermatological examination: (Fig.16.1)
- Multiple well-defined scaly erythematous plaques distributed along Blaschko's lines on posteromedial aspect of right thigh.
- Mucosa: normal
- Nail: normal

Histopathology: (S17-016123A, Right thigh) (Fig. 16.2)


(Fig. 16.2)

- Psoriasiform epidermal hyperplasia, confluent parakeratosis with neutrophils and hypogranulosis
- Superficial perivascular cell infiltrate of lymphocytes admixed with few neutrophils and proliferation of dilated capillary blood vessels in the dermal papillae

Diagnosis: Linear psoriasis

Treatment:
- 0.1% Betamethasone valerate apply twice daily
- 10% Urea cream apply twice daily

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Discussion:

Linear psoriasis (LPs) is a rare clinical presentation of psoriasis, first reported in 1951.[1] Limited numbers of cases has been reported in the literature.[2-8] LPs characterized by a linear distribution of psoriatic lesions along Blaschko's lines. It's could be occurs either isolated or coexist with nonsegmented plaques of psoriasis. Linear psoriasis usually develops in late onset, however, early childhood onset and congenital psoriasis also been reported.[7,9] LPs usually presented with asymptomatic or slightly itchy, possible involves scalp or nails and favorable responses to antipsoriatic treatment.[2]

Happle proposed pathogenesis of linear psoriasis as genetic mosaicism, loss of heterozygosity in somatic cells during early embryogenesis results in somatic gene recombination.[10] This hypothesis explains the linear distribution similar to many other mosaic skin disorder and also nonhereditary trait of the disease.[11]

The main differential diagnostic of LPs is inflammatory linear verrucous epidermal nevus (ILVEN) which usually develops in the first month of life, slow progression, intense pruritus, and resistant to antipsoriatic treatment. [1] There are some reports of the existence of both disorders in the same patient. Other differential diagnosis includes linear lichen planus, lichen striatus, and linear porokeratosis.

Histological examination can help to distinguish LPs from other differential diagnosis. Classical histological features of psoriasis include hyperkeratosis, parakeratosis, absent of granular cell layers, elongation of rete ridges, suprapapillary thinning, Munro's microabscess, and spongiform pustule of Kogoj. Histological finding of ILVEN classically demonstrate hypergranulosis and parakeratosis alternating with hypogranulosis and orthokeratosis.[12] In the absence of classic histological features of ILVEN, immunohistopathologic studies may be helpful in distinguish between LPs and ILVEN. In ILVEN the number of Ki67-positive nuclei tends to be reduced, whereas cells positive for keratin 10 were increased compared with psoriasis.[13] Involucrin, a marker of epidermal differentiation, also useful as a tool to distinguish psoriasis and ILVEN, the involucrin expression is increased in orthokeratotic regions but is deficient in parakeratotic regions in ILVEN, by contrast, in parakeratotic regions in psoriasis and most suprabasal keratinocytes are express involucrin.[14]

Treatment effective for linear psoriasis tends to limited response more than plaque type psoriasis.[15] However, systemic treatments for linear psoriasis are not recommended unless the skin lesions are particularly burdensome and cannot be controlled with topical agents or NBUVB phototherapy.[16]

Our patient is a 16 year-old female presented with a year history of asymptomatic well-defined, scaly, erythematous plaques which began on medial aspect of right thigh and progressed to posterior aspect of right leg within a month. The lesion arranged in linear distribution along Blaschko's lines. There was no other sites involved, such as nails or scalp. There was no history of similar cutaneous lesion in her family.

Histopathologic examination of the lesion on her right thigh confirmed the diagnosis of psoriasis.

Topical betamethasone valerate and 10% urea cream were prescribed for 9 weeks. After applied those topical agents for 9 weeks, there was reduction of the thickness, scale and erythema of the plagues. The patient was satisfied with the result. Topical treatment has been continued for another 3 months until next visit.

References:

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