An Unusual Presentation of Lichen Striatus

Dear Editor,

Lichen striatus (LS) is a self-limiting linear dermatosis that predominantly affects children aged 5 months to 15 years and is distributed along the lines of Blaschko.[1] It is usually unilateral and single, although bilateral or multiple LS have been previously reported in the literature.[2] However, some cases of LS showing bizarre pattern of distribution along Blaschko lines have been documented in adults but not in children.[3] In this article, we present a child with linear and whorled LS lesions distributed along Blaschko's lines involving right half of the body.

A 4-year-old girl presented with asymptomatic streaks of scaly white patches on the right side of face, neck, chest, back, thighs, legs, and foot since birth. The lesions appeared first on the right thigh and later extended to involve the whole body on right side with in few months [Figure 1a-d]. She was born out of non-consanguineous marriage. Birth history was unremarkable. There was no history of any vesicular lesions, itching, personal or family history of atopy and no similar lesions in other family members. On examination, linear and whorled areas of scaly hypopigmented papules and plaques were present on the right side of the body along the Blaschko's lines. Hair, nails, oral mucosa were uninvolved. Linear lichen planus, linear psoriasis, lichen striatus, incontinentia pigmenti, and linear and whorled nevoid hypomelanosis were the clinical differentials. On dermoscopy, whitish scar like areas with superficial scaling [Figure 2a] and accentuated surrounding network of pigmentation were present [Figure 2b].

Skin biopsy from a lesion on the right forearm showed mild hyperkeratosis, spongiosis, vacuolar alteration of basal layer and lymphocytic exocytosis with a mildtomoderate perivascular mononuclear inflammatory infiltrate and melanin incontinence in the dermis [Figure 3a and b]. It was diagnosed as a case of LS based upon the clinical and histopathological findings. Parents were reassured and emollients and tacrolimus 0.1% lotion for body lesions and tacrolimus 0.03% cream for face were prescribed for treatment.

Linear dermatoses such as LS follow the lines of Blaschko, which are embryonic in origin. A somatic mutation in early embryogenesis results in the formation of an abnormal clone of cells, which on subsequent exposure to an environmental stimulus result in the formation of LS. Others believe that it is secondary to an autoimmune response mediated by T cells.[4] The pathogenesis of LS is poorly understood. However, various etiological factors most commonly implicated are atopy, drugs (adalimumab and etanercept), BCG and hepatitis B vaccination, minor trauma, insect bite, and viral infections such as varicella, influenza, and human herpes viruses 6 and 7.

The histopathological findings are nonspecific and vary depending on the stage of evolution. Usually, a superficial perivascular lympho-histiocytic infiltrate is seen, which may extend focally into the lower part of epidermis causing vacuolar alteration of basal layer with melanin incontinence. The epidermal reaction pattern may include spongiosis, focal parakeratosis, and lymphocyte exocytosis.[1]

The dermoscopic features of LS were gray granular pigmentation and white scar like lines. Gray granular pigmentation histologically corresponds to pigment-laden dermal melanophages of LS. In addition, a white scar-like line, only observed in LS, may also be helpful in differentiating from other conditions like inflammatory linear verrucous epidermal nevus (ILVEN). Although these dermoscopic features were not pathognomonic findings, these distinct features can be an important clue for differential diagnosis.[5]

Nevoid conditions to be considered, which occur at birth or during infancy, are incontinentia pigmenti, linear and

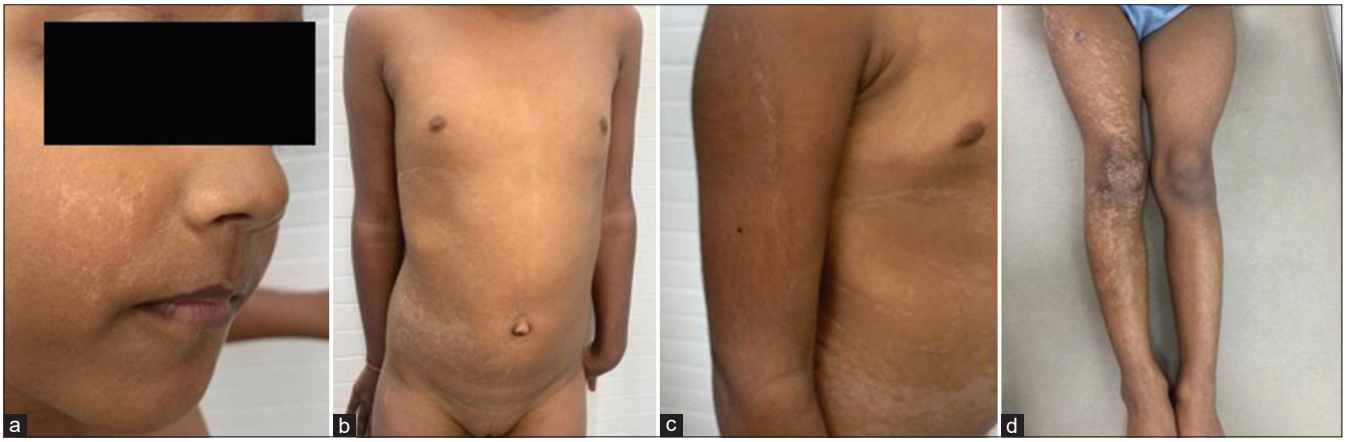

Figure 1: (a) 4-year-old girl with hypopigmented scaly lesions on right side of the face (b and c) right side of trunk and arms and (d) right lower limb

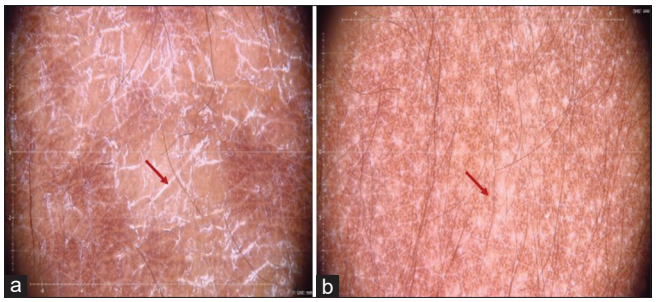

Figure 2: (a) On videodermoscopy whitish scar like areas with superficial scaling seen, (b) Accentuated surrounding network of pigmentation present [120× magnification (Fotofinder)]

whorled nevoid hyper melanosis, hypomelanosis of ito, and epidermal nevi. Acquired conditions following Blaschko lines include psoriasis, porokeratosis, lupus erythematosus, pemphigus, scleroderma, fixed drug eruption, lichen planus, lichen nitidus, and lichen striatus.[6]

Blaschko linear acquired inflammatory skin eruption (BLAISE) is characterized by inflammatory infiltrate and distribution along the lines of Blaschko. Blaschkitis more commonly occurs in adults, frequently involving the truncal areas, including the chest and abdomen. Histopathology changes show spongiotic dermatitis.[7]

LS usually resolves spontaneously within 3–12 months, thus requiring symptomatic treatment only. The patient should be reassured and emollients and topical steroids may be used to relieve dryness and pruritus. For long-standing and rapidly progressing cases, once or twice daily application of tacrolimus ointment has shown efficacy.[8] Postinflammatory hypopigmentation or hyperpigmentation can develop as a sequela.[2]

To the best of our knowledge, previously reported unusual patterns of LS are bilateral LS and multiple LS. LS rarely presents at birth. Our patient has an extensive unusual whorled and linear pattern of LS following Blaschko's lines involving the complete right side of the body since birth.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

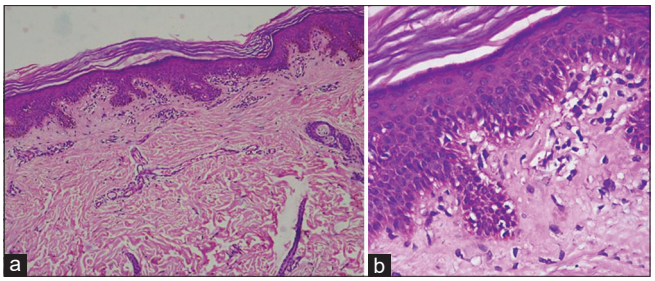

Figure 3: (a) Skin biopsy from a lesion on the right forearm showed mild hyperkeratosis, spongiosis with a mild to moderate perivascular mononuclear inflammatory infiltrate (hematoxylin and eosin staining; 10× magnification) and (b) vacuolar alteration of basal layer and melanin incontinence in the dermis (hematoxylin and eosin staining; 40× magnification)

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

Pellakuru Preethi, Rashmi Agarwal, Byalakere Shivanna Chandrashekar, Subhra Dhar[1]

Department of Paediatric Dermatology, Cutis Academy of Cutaneous Sciences, Bengaluru, Karnataka, [1]Department of Pathology, Wizdermpath Lab, Kolkata, West Bengal, India

Address for correspondence:
Dr. Rashmi Agarwal,
Department of Pediatric Dermatology, Cutis Academy of Cutaneous Sciences, Bengaluru, Karnataka, India.
E-mail: agarwal5rashmi@gmail.com

References

1. Kurokawa M, Kikuchi H, Ogata K, Setoyama M. Bilateral lichen striatus. J Dermatol 2004;31:129-32.
2. Mittal R, Khaitan BK, Ramam M, Verma KK, Manchanda M. Multiple lichen striatus: An unusual presentation. Indian J Dermatol Venereol Leprol 2001;67:204.
3. Harper J, Oranje AP. Harper's Textbook of Pediatric Dermatology. John Wiley & Sons; 2019.
4. Gupta A, Gautam RK, Bhardwaj M. Bilateral lichen striatus: A case report with review of literature. Indian Dermatol Online J

2017;8:264-6.
5. Kim DW, Kwak HB, Yun SK, Kim HU, Park J. Dermoscopy of linear dermatosis along Blaschko's line in childhood: Lichen striatus versus inflammatory linear verrucous epidermal nevus. J Dermatol 2017;44:e355-6.
6. Patrizi A, Neri I, Fiorentini C, Bonci A, Ricci G. Lichen striatus: Clinical and laboratory features of 115 children. Pediatr Dermatol 2004;21:197-204.
7. Darsha AK, Cohen PR. Blaschkolinear acquired inflammatory skin eruption (BLAISE): Case report of a young man whose dermatosis had features of lichen striatus and Blaschkitis. Cureus 2020;12:e10785.
8. Vukićević J, Milobratović D, Vesić S, Milosević-Jovćić N, Cirić D, Medenica L. Unilateral multiple lichen striatus treated with tacrolimus ointment: A case report. Acta Dermatovenerol Alp Pannonica Adriat 2009;18:35-8.

Access this article online

Website: www.idoj.in

Quick Response Code

DOI: 10.4103/idoj.idoj_204_22

How to cite this article: Preethi P, Agarwal R, Chandrashekar BS, Dhar S. An unusual presentation of lichen striatus. Indian Dermatol Online J 2023;14:120-2.

Received: 06-Apr-2022. **Revised:** 04-Jun-2022.
Accepted: 20-Jun-2022. **Published:** 21-Sep-2022.