

Henry Ford Health

Henry Ford Health Scholarly Commons

Dermatology Articles

Dermatology

11-1-2021

Linear Violaceous Papules in a Child

Aaron Tisack

Henry Ford Health, atisack2@hfhs.org

Chelsea Luther

Laurie L. Kohen

Henry Ford Health, lkohen1@hfhs.org

Follow this and additional works at: https://scholarlycommons.henryford.com/dermatology_articles

Recommended Citation

Tisack A, Luther C, and Kohen L. Linear Violaceous Papules in a Child. *Cutis* 2021; 108(5):241-245.

This Article is brought to you for free and open access by the Dermatology at Henry Ford Health Scholarly Commons. It has been accepted for inclusion in Dermatology Articles by an authorized administrator of Henry Ford Health Scholarly Commons.

Linear Violaceous Papules in a Child

Aaron Tisack, MD; Chelsea Luther, MD; Laurie Kohen, MD

Eligible for 1 MOC SA Credit From the ABD

This Photo Challenge in our print edition is eligible for 1 self-assessment credit for Maintenance of Certification from the American Board of Dermatology (ABD). After completing this activity, diplomates can visit the ABD website (<http://www.abderm.org>) to self-report the credits under the activity title "Cutis Photo Challenge." You may report the credit after each activity is completed or after accumulating multiple credits.



A 5-year-old Black girl presented to the dermatology clinic with a stable pruritic eruption on the right leg of 1 month's duration. Over-the-counter hydrocortisone cream was applied for 3 days with no response. Physical examination revealed grouped, flat-topped, violaceous papules coalescing into plaques with overlying lacy white striae along the right lower leg, wrapping around to the right dorsal foot in a blaschkoid distribution. The patient was otherwise healthy and up-to-date on immunizations and had an unremarkable birth history.

WHAT'S YOUR DIAGNOSIS?

- incontinentia pigmenti
- inflammatory linear verrucous epidermal nevus
- lichen striatus
- linear lichen planus
- linear psoriasis

PLEASE TURN TO **PAGE 245** FOR THE DIAGNOSIS

Dr. Tisack is from Wayne State University School of Medicine, Detroit, Michigan. Dr. Luther is from Dermatology Specialists of Canton, Michigan. Dr. Kohen is from the Department of Dermatology, Henry Ford Health System, Detroit.

The authors report no conflict of interest.

Correspondence: Aaron Tisack, MD, Department of Dermatology, Henry Ford Health System, 3031 W Grand Blvd, Ste 800, Detroit, MI 48202 (Atisack2@hfhs.org).

doi:10.12788/cutis.0381

THE DIAGNOSIS: Linear Lichen Planus

The patient was clinically diagnosed with linear lichen planus and was started on betamethasone dipropionate ointment 0.05% applied once daily with improvement in both the pruritus and appearance at 4-month follow-up. A biopsy was deferred based on the parents' wishes.

Lichen planus is an inflammatory disorder involving the skin and oral mucosa. Cutaneous lichen planus classically presents as flat-topped, violaceous, pruritic, polygonal papules with overlying fine white or grey lines known as Wickham striae.¹ Postinflammatory hyperpigmentation is common, especially in patients with darker skin tones. Expected histologic findings include orthokeratosis, apoptotic keratinocytes, and bandlike lymphocytic infiltration at the dermoepidermal junction.¹

An estimated 5% of cases of cutaneous lichen planus occur in children.² A study of 316 children with lichen planus demonstrated that the classic morphology remained the most common presentation, while the linear variant was present in only 6.9% of pediatric cases.³ Linear lichen planus appears to be more common among children than adults. A study of 36 pediatric cases showed a greater representation of lichen planus in Black children (67% affected vs 21% cohort).²

Cutaneous lichen planus often clears spontaneously in approximately 1 year.⁴ Treatment in children primarily is focused on shortening the time to resolution and relieving pruritus, with topical corticosteroids as first-line therapy.^{3,4} Oral corticosteroids have a faster clinical response; greater efficacy; and more effectively prevent residual hyperpigmentation, which is especially relevant in individuals with darker skin.³ Nonetheless, oral corticosteroids are considered a second-line treatment due to their unfavorable side-effect profile. Additional treatment options include oral aromatic retinoids (acitretin) and phototherapy.³

Incontinentia pigmenti is characterized by a defect in the inhibitor of nuclear factor- κ B kinase regulatory

subunit gamma, *IKBKG*, gene on the X chromosome. Incontinentia pigmenti usually is lethal in males; in females, it leads to ectodermal dysplasia associated with skin findings in a blaschkoid distribution occurring in 4 stages.⁵ The verrucous stage is preceded by the vesicular stage and expected to occur within the first few months of life, making it unlikely in our 5-year-old patient. Inflammatory linear verrucous epidermal nevus usually occurs in children younger than 5 years and is characterized by psoriasiform papules coalescing into a plaque with substantial scale instead of Wickham striae, as seen in our patient.⁶ Lichen striatus consists of smaller, pink to flesh-colored papules that rarely are pruritic.⁷ It is more common among atopic individuals and is associated with postinflammatory hypopigmentation.⁸ Linear psoriasis presents similarly to inflammatory linear verrucous epidermal nevus, with greater erythema and scale compared to the fine lacy Wickham striae that were seen in our patient.⁸

REFERENCES

1. Tziotzios C, Lee JYW, Brier T, et al. Lichen planus and lichenoid dermatoses: clinical overview and molecular basis. *J Am Acad Dermatol*. 2018;79:789-804.
2. Walton KE, Bowers EV, Drolet BA, et al. Childhood lichen planus: demographics of a U.S. population. *Pediatr Dermatol*. 2010;27:34-38.
3. Pandhi D, Singal A, Bhattacharya SN. Lichen planus in childhood: a series of 316 patients. *Pediatr Dermatol*. 2014;31:59-67.
4. Le Cleach L, Chosidow O. Clinical practice. lichen planus. *N Engl J Med*. 2012;366:723-732.
5. Greene-Roethke C. Incontinentia pigmenti: a summary review of this rare ectodermal dysplasia with neurologic manifestations, including treatment protocols. *J Pediatr Health Care*. 2017;31:E45-E52.
6. Requena L, Requena C, Cockerell CJ. Benign epidermal tumors and proliferations. In: Bologna JL, Schaffer JV, Cerroni L, eds. *Dermatology*. 4th ed. Elsevier; 2017:1894-1916.
7. Payette MJ, Weston G, Humphrey S, et al. Lichen planus and other lichenoid dermatoses: kids are not just little people. *Clin Dermatol*. 2015;33:631-643.
8. Moss C, Browne F. Mosaicism and linear lesions. In: Bologna JL, Schaffer JV, Cerroni L, eds. *Dermatology*. 4th ed. Elsevier; 2017:1894-1916.