BRIEF ARTICLES

Dermoscopy of Inflammatory Linear Verrucous Epidermal Nevus: Brown and Red Glomerular Structures Over a White Background as an Identifying Feature

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INTRODUCTION

Inflammatory linear verrucous epidermal nevus (ILVEN) is an uncommon variant of keratinocytic epidermal nevus that typically presents as linear erythematous and verrucous papules which often coalesce into plaques. ILVEN is characteristically intensely pruritic and is most commonly found unilaterally on an extremity, the trunk, or buttock in a blaschkoid pattern. Lesions may be present as early as birth most commonly developing in early childhood before the age of five years old and persisting for months to years. Females are more often affected.[1,2]

We present the case of an adult patient who presented to our clinic for evaluation of her long-standing, treatment-resistant ILVEN. Dermoscopy was used to aid in the diagnosis and exhibited alternating red and brown glomerular-type structures over a white background. We propose that these findings may be added to other previously documented dermoscopic characteristics of ILVEN, as they correspond to known histopathological features of the dermatosis and may aid in non-invasive diagnosis.

CASE REPORT

A 28-year-old Hispanic female presented to our clinic complaining of pruritic linear bumps on her left arm, shoulder, and leg. She had previously seen a dermatologist for the same lesions and reported that a biopsy was performed at that time which showed psoriasiform dermatitis consistent with inflammatory linear verrucous epidermal nevus. She was treated with topical tretinoin but had no improvement. The patient had no other significant past medical, surgical, or family history. She was not taking any medications and had no allergies.

On physical exam brown-to-violaceous-to-red plaques were present in a unilateral blaschkoid distribution along the left arm, left shoulder, and left leg, consistent with the diagnosis of inflammatory linear verrucous epidermal nevus. (Figs. 1-2) Dermoscopic exam revealed alternating brown and red glomerular-type structures, visualized over a white background. (Fig. 3) No biopsy was performed. The patient was started on a combination of topical steroid, topical calcipotriene, and topical retinoid.

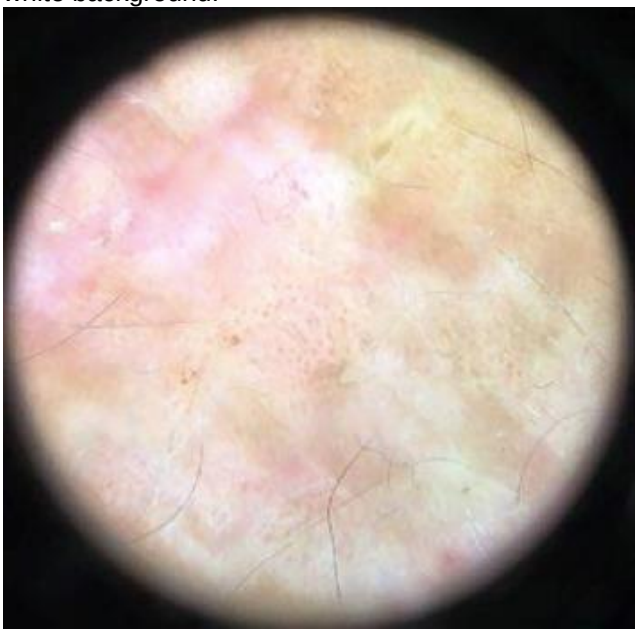
Figure 1. Verrucous plaques distributed in a blaschkoid pattern on the left upper extremity.

Figure 2. Inflammatory plaques in a blaschkoid distribution on the left thigh.

DISCUSSION

Diagnosis of ILVEN requires careful consideration of other linear and Blaschkoid dermatoses. Linear psoriasis resembles ILVEN both clinically and histologically. Linear lichen planus, lichen striatus, and other epidermal nevi, among others, make up the differential diagnosis.[3] Histological examination of ILVEN reveals psoriasiform hyperplasia of the epidermis and broad zones of parakeratosis without a granular layer that alternate with zones of orthokeratosis and hypergranulosis. Other findings may include mild epidermal spongiosis, a superficial infiltrate of lymphocytes and neutrophils, and dilated vessels in the dermal papillae.[3,4]

Figure 3. Dermoscopic view showing alternating brown and red glomerular-type structures over a white background.



Dermoscopy has also become a useful tool in the diagnosis of ILVEN. Carbotti et al described the dermoscopic features of verrucous epidermal nevi (VEN), including large brown circles present in all observed lesions. These large brown circles may correspond to pigmented keratinocytes surrounding the elongated dermal papillae but are not specific to VEN.[5] Kim et al described dermoscopic features of ILVEN, reporting prominent findings of scales, brown color, a cerebriform patterned structure, and dotted vascular patterns. A glomerular vascular pattern was seen in one patient.[6]

Dermoscopy at two affected sites in our patient revealed alternating brown and red glomerular-type structures. The correlation of these structures to the known histopathological features of ILVEN increases the yield of the non-invasive

clinical diagnosis. Pigmented keratinocytes in alternating zones of orthokeratosis and parakeratosis may be the source of the glomerular brown structures seen on dermoscopy. Dilated vessels in the dermal papillae correspond to the red glomerular structures that were also seen. These structures were visualized over a white background, which is consistent with the findings of one patient described by Kim et al.[6]

CONCLUSION

ILVEN is an uncommon dermatosis and the description of its dermoscopic features has thus far been very limited. Our case is unique because of the presence of alternating brown and red glomerular-type structures on a white background. While these findings are unique, the visualized structures correspond to known histopathologic features of ILVEN and are therefore helpful in making a non-invasive diagnosis. Further studies and case reports will be valuable in establishing the characteristic dermoscopic features of ILVEN.

Conflict of Interest Disclosures: None

Funding: None

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