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Dermatology

Pediatric Discoid Lupus Erythematosus with Scalp-Exclusive Involvement: Trichoscopy and Response to Early Minipulse Corticosteroid Therapy

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Abstract **Case Report**

Discoid lupus erythematosus (DLE) of the scalp is a rare and challenging diagnosis in pediatric patients, especially during early, non-scarring stages when it mimics common causes of hair loss such as tinea capitis or alopecia areata. This report describes a 9-year-old boy presenting with alopecic scalp lesions initially misdiagnosed and resistant to topical corticosteroids. Dermoscopic examination revealed characteristic features of scalp DLE, including follicular keratotic plugs and the “red spider on yellow dot” sign, facilitating early diagnosis. A biopsy confirmed the diagnosis, and systemic involvement was excluded. Given the poor response to topical therapies and the delayed effect of antimalarials, treatment with oral prednisone minipulse therapy was initiated, resulting in complete clinical remission and hair regrowth after 8 weeks without adverse effects. This case highlights the diagnostic value of trichoscopy in pediatric scalp alopecia and suggests corticosteroid minipulse therapy as a promising short-term option for managing scalp DLE in children, warranting further studies.

Keywords: Discoid lupus erythematosus; Pediatric lupus erythematosus; Trichoscopy; Cicatricial alopecia; Minipulse corticosteroid therapy.

INTRODUCTION

Discoid lupus erythematosus (DLE) is a rare condition in the pediatric population [1], and its diagnosis can be particularly difficult when lesions are confined to the scalp. This is especially true during the early, non-scarring stages of the disease, when lesions can mimic more common pediatric dermatoses like tinea capitis or alopecia areata [2]. Treatment can also be challenging, as DLE is often resistant to topical corticosteroids and progresses rapidly to scarring alopecia.

This report emphasizes the importance of trichoscopy in evaluating alopecic lesions in children, enabling early recognition of scarring dermatoses like DLE, thereby allowing for timely intervention. To our knowledge, this is the first documented case of DLE successfully treated with minipulse oral corticosteroid therapy.

CASE REPORT

A 9-year-old boy presented with a 4-week history of alopecic patches on his scalp, for which he had been self-medicating with topical corticosteroids with no improvement. Notably, the child had a history of contact with cats. Physical examination revealed a 7 cm erythematous, scaly, non-scarring plaque on the vertex (Figure 1A). The hair pull test was positive, and no fluorescence was observed under Wood’s lamp. Physical examination was otherwise normal. Infectious causes were initially suspected, but both fungal and bacterial cultures were negative. After crust removal (Figure 1B), dermoscopic examination revealed broken hairs, short vellus hairs, perifollicular scaling, a pinkish-red background, red follicular dots, follicular keratotic plugs, and arborizing vessels forming the "red spider on yellow dot" sign (Figure 2).

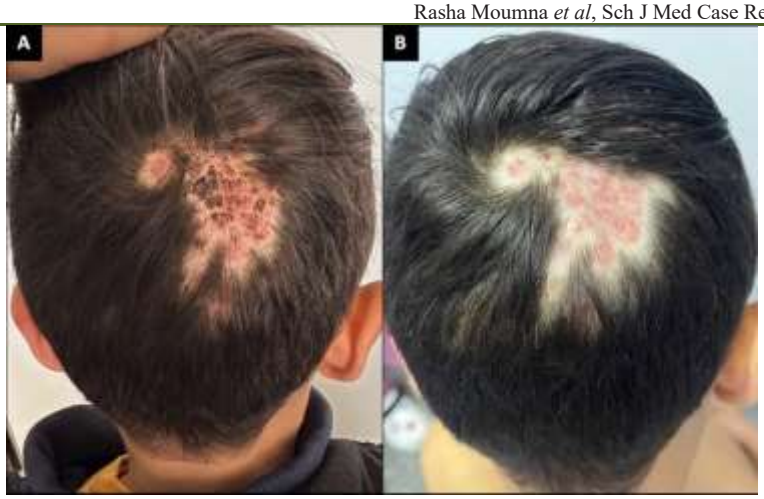

Figure 1: Clinical aspect of the lesions at admission (A), and after crust removal (B)

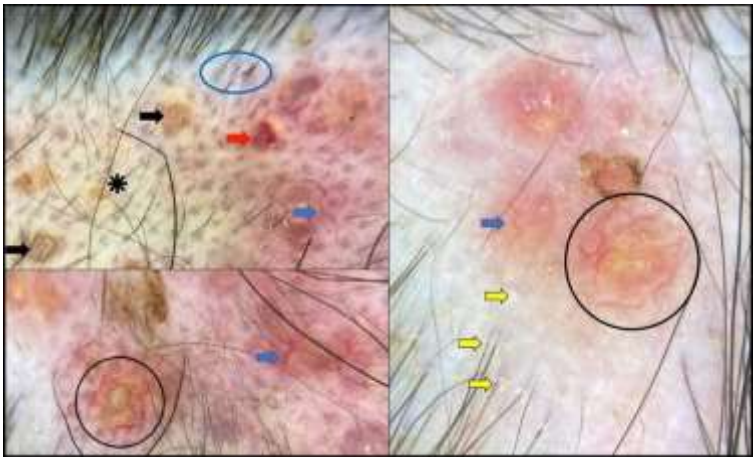

Figure 2: Identified dermoscopic features: follicular keratotic plugs (black arrows), arborizing vessels (blue arrows), red spider-on-yellow-dot sign (black circle), red follicular dots (red arrow), perifollicular scaling (yellow arrows), broken hairs (blue ellipse), short vellus hairs (black asterisk), and a pinkish-red background (pink asterisk)

A biopsy showed hyperkeratosis, perifollicular lymphocytic infiltrate, and interface dermatitis, confirming the diagnosis of discoid lupus erythematosus (DLE). A full workup ruled out systemic involvement. Since we didn't initially have the necessary ophthalmologic evaluations, we couldn't immediately start antimalarials. Considering the poor response to topical corticosteroids, we initiated oral prednisone minipulse treatment at a dose of 1 mg/kg/day for 2 consecutive days per week. After 8 weeks, the patient showed complete regrowth of the affected area without any side effects (Figure 3).

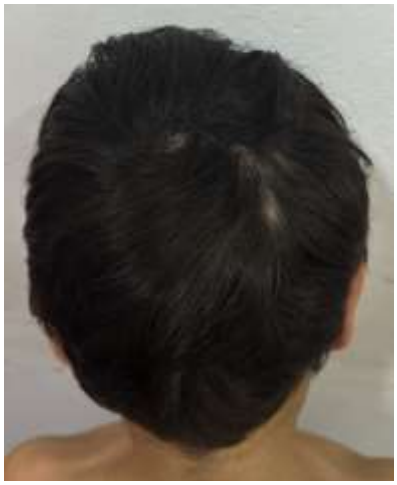

Figure 3: Clinical aspect of the lesions after 8 weeks of treatment (C)

DISCUSSION

Scalp discoid lupus erythematosus (DLE) is a common cause of cicatricial alopecia in adults, characterized by irreversible hair loss due to chronic inflammation and scarring of the hair follicles. Although relatively frequent in adults, scalp DLE remains an exceptionally rare condition in children, which may lead to lower clinical suspicion and delayed diagnosis [1]. In this context, dermoscopy has become an essential non-invasive tool that facilitates the clinical recognition of scalp DLE. Dermoscopic examination reveals characteristic features such as perifollicular scaling, follicular keratotic plugs, and arborizing vessels. The combination of these signs forms the highly specific "red spider on yellow dot" pattern, considered pathognomonic for scalp DLE lesions [3]. This dermoscopic sign helps differentiate DLE from other causes of alopecia, especially in challenging pediatric cases where histopathology or clinical presentation may be inconclusive.

Regarding treatment, oral corticosteroids are generally not favored as a first-line option due to their potential side effects, particularly with long-term use [4]. Standard management typically includes topical corticosteroids, antimalarials, and immunomodulatory agents. However, scalp DLE lesions are often resistant to topical corticosteroids, and antimalarials require several weeks to months to produce clinical improvement, leaving a therapeutic gap during the early phase.

Corticosteroid minipulse therapy—an intermittent regimen typically administered two days per week—has proven safe and effective in inflammatory hair disorders like alopecia areata [5]. Although not yet studied in scalp DLE, its rapid anti-inflammatory effect suggests potential as a short-term treatment to reduce inflammation and scarring. Given the frequent resistance of scalp DLE to topical corticosteroids and the slow action of antimalarials, minipulse therapy could offer a valuable management option. Further research is needed to confirm its safety and efficacy, particularly in pediatric cases where early intervention may prevent irreversible hair loss.

CONCLUSION

Although pediatric discoid lupus erythematosus (DLE) is a rare condition, especially when lesions are confined solely to the scalp, early recognition and prompt treatment are critical to prevent irreversible scarring and permanent hair loss. Delay in diagnosis often occurs due to its clinical similarity to more common pediatric scalp conditions, which can lead to inadequate management and progression of the disease. Therefore, maintaining a high index of suspicion in children presenting with alopecic patches is paramount.

Dermatologists play a key role in identifying characteristic dermoscopic features that differentiate scalp DLE from other causes of hair loss in children. The use of trichoscopy enhances early diagnosis, allowing for timely therapeutic intervention that may halt disease progression and improve prognosis. Increasing awareness of pediatric scalp DLE and incorporating noninvasive diagnostic tools into routine practice can ultimately lead to better patient outcomes and preservation of hair.

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