Dermoscopic patterns in lichen sclerosus: A report of three cases

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INTRODUCTION

Lichen sclerosis (LS), also known as lichen sclerosus et atrophicus, is a chronic inflammatory dermatosis of anogenital area of unknown etiology. It is prevalent in females with bimodal onset in prepubertal and postmenopausal age group.[1] Extragenital lesions are rare and asymptomatic.[2] Diagnosis is mainly by clinical examination. However, in the early stages, diagnosis is difficult.[1,3] Dermoscopy is a simple, noninvasive skin diagnostic tool that unveils subtle surface as well as subsurface structures.[4] The use of dermoscopy in extragenital LS has not been extensively studied in the past. We observed a few characteristic dermoscopic patterns in three cases of extragenital LS that we believe aid in the clinical diagnosis of LS.

CASE REPORTS

Case 1

A 26-year-old male presented with multiple hypopigmented atrophic macules over the upper and lower limbs since one month [Figure 1]. Dermoscopy revealed whitish structureless areas (WSA), comedo like openings (CLO) [Figure 2] and dotted vessels arranged in a net-like pattern [Figure 3].

Case 2

A 9-year-old girl presented with asymptomatic papules over the face, back, upper and lower limbs since two months. Dermoscopy revealed WSA and telengiectasia [Figure 4].

Case 3

A 22-year-old male had atrophic, hypopigmented macules and papules over chest, trunk and lower limbs since 5 months. Dermoscopy revealed WSA, white chrysalis like structures (WCLA) and telangiectasia of different lengths and calibers [Figures 5 and 6].

Histopathology of lesions showed atrophy of the epidermis, hyperkeratosis [Figure 7], and follicular plugging with basal cell degeneration. [Figure 8] The dermis showed edema and homogenization of collagen and interstitial and perivascular lymphocytic infiltration [Figure 9].

Hair, nail, oral, genital mucosa, systemic examination, and blood investigations were within normal limits in all three patients. A diagnosis of extragenital LS was made in all three cases based on clinical features and histopathology.

DISCUSSION

Early diagnosis and prompt treatment are mandatory as LS is a chronically relapsing disease with the potential for atrophy and scarring. Diagnosis of LS is mainly by clinical examination but in inconclusive cases histopathology can help confirm the diagnosis. Nevertheless, in the early stages of the disease, both clinical and histopathological features are uncharacteristic.[5] Edmonds *et al*., reported nonspecific histopathological changes in one-third of men with characteristic signs of LS.[6] Dermoscopy, which visualizes the color patterns in the epidermis, dermo-epidermal junction and papillary dermis can be utilized in this context.

Some dermoscopic patterns are observed consistently and characteristically in certain diseases and could be used for their diagnosis.[7] Dermoscopy is traditionally employed in pigmented lesions; however, its usefulness in inflammatory skin conditions is less-explored.[4]

Studies on the use of dermoscopy in LS are sparse. Shim *et al*., concluded that WSA and CLO were statistically significant in LS, whereas fibrotic bands were significant in morphea.

Nevertheless, comma shaped vessels, hairpin like vessels and dotted vessels were exclusively seen in LS. They correlated dermoscopic patterns with histopathology: WSA representing epidermal atrophy and CLO representing follicular plugging in histopathology.[8] Similar dermoscopic patterns were observed in our patients.

Identical dermoscopic patterns were described in four women with extragenital LS with predominant CLO and WSA in the early lesions. Conversely, these were less prominent in late lesions.[9] This may be due to lessened hyperkeratosis and destruction of follicles in the late stages.

Telangiectasia of different lengths and calibers and WCLA were reported in a histopathologically proven case of LS coexisting with lichen planus and morphea in addition to above mentioned dermoscopic patterns.[10] WCLA are described as shiny, bright white, parallel or orthogonal or disordered linear streaks, seen only by polarized dermoscopy. They are usually seen in dermatofibroma, basal cell carcinoma, Spitz nevus and melanoma and are due to excessive collagen in dermis.[11] WCLA was observed in one patient with longer duration of lesions in this study.

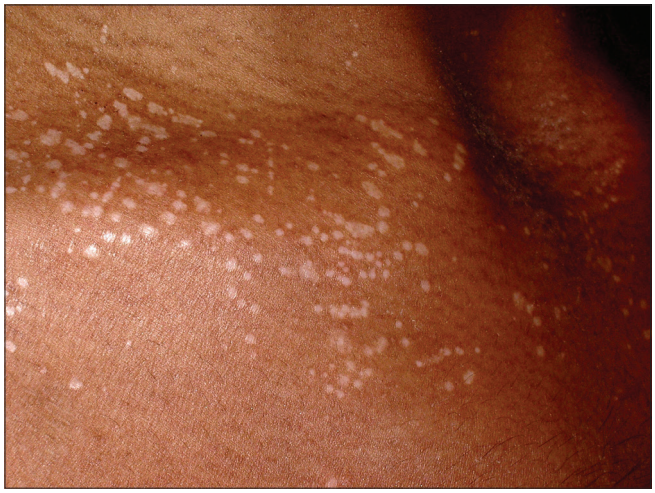

Figure 1: Multiple hypopigmented macules, papules distributed over chest with mild atrophy and kobnerization

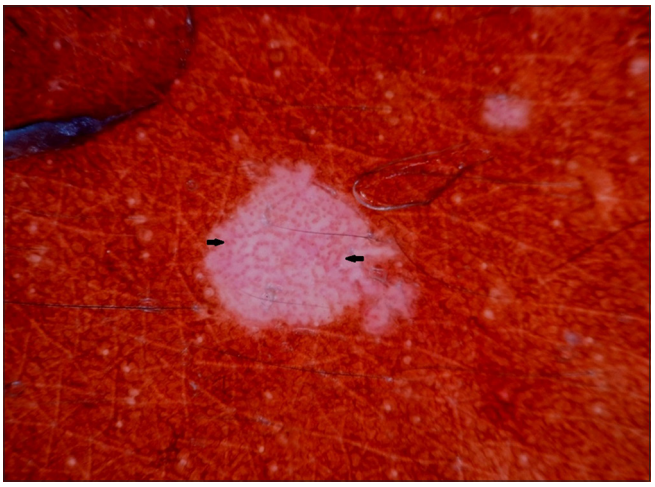

Figure 3: Dermoscopy showing dotted vessels arranged in a net like pattern (black arrow)

CONCLUSION

In this study, WCLA suggested homogenization of collagen in the dermis and seen only in late lesions. CLO was predominant in early lesions, indicating follicular plugging. WSA indicates hyperkeratosis and epidermal atrophy; telangiectasia and dotted vessels represent atrophic epidermis with dilated blood vessels. The latter were observed in both early and late lesions. Thus, dermoscopic patterns correlate well with histopathological features and aid in confirmation of the

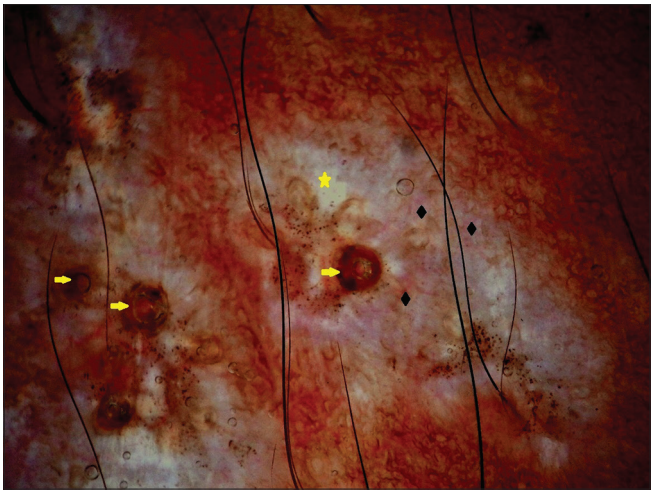

Figure 2: Dermoscopy showing white structureless areas (yellow star) and comedo like openings (yellow arrow) with telangiectasia of different lengths and calibers (black diamond). Brown dots indicate artifacts

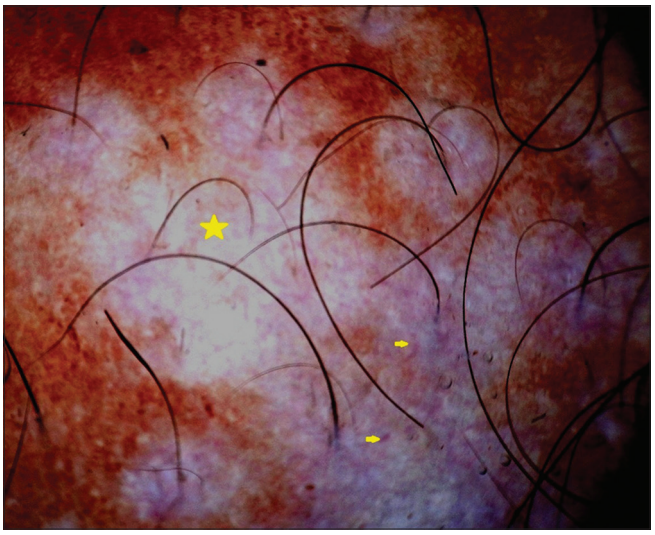

Figure 4: Dermoscopy showing white structureless areas (yellow star) and telangiectasia (yellow arrow)

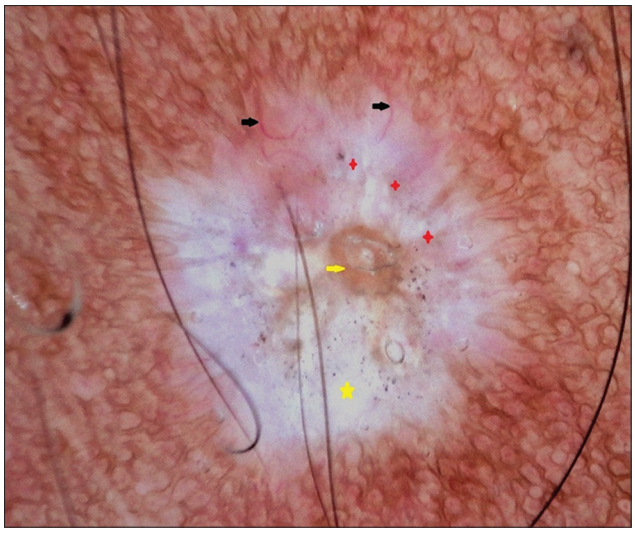

Figure 5: Polarized dermoscopy showing white structureless areas (yellow star) comedo like openings (yellow arrow), white chrysalis like structures (red star) and telangiectasia of different lengths and calibers (black arrow)

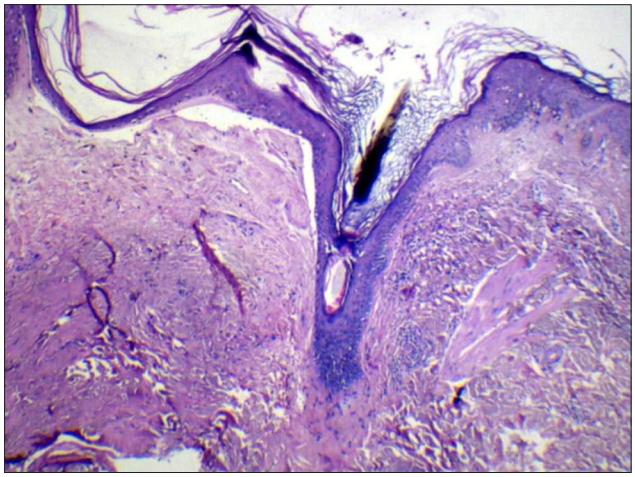

Figure 7: Histopathology showing hyperkeratosis and follicular plugging (H and E, ×10)

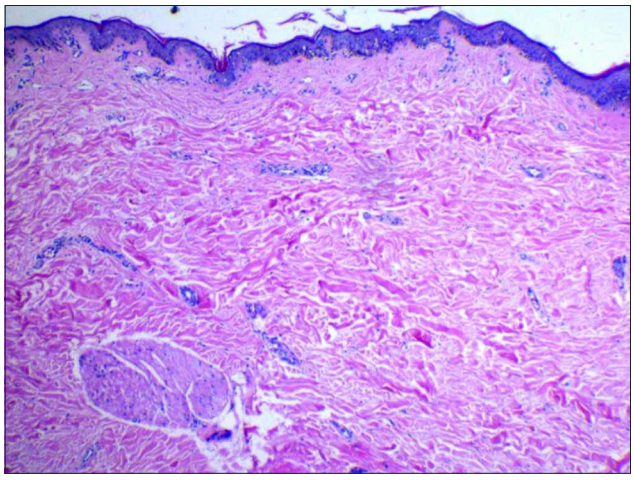

Figure 9: Histopathology showing homogenization of collagen and edema with mild perivascular, interstitial lymphocytic infiltration in dermis (H and E, ×10)

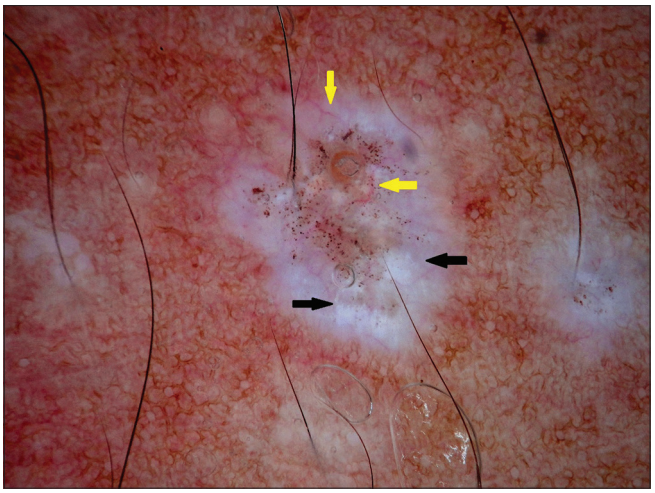

Figure 6: Polarized dermoscopy showing white chrysalis like structures (black arrows) and telangiectasia of different lengths and calibers (yellow arrows). Brown dots indicate artifacts

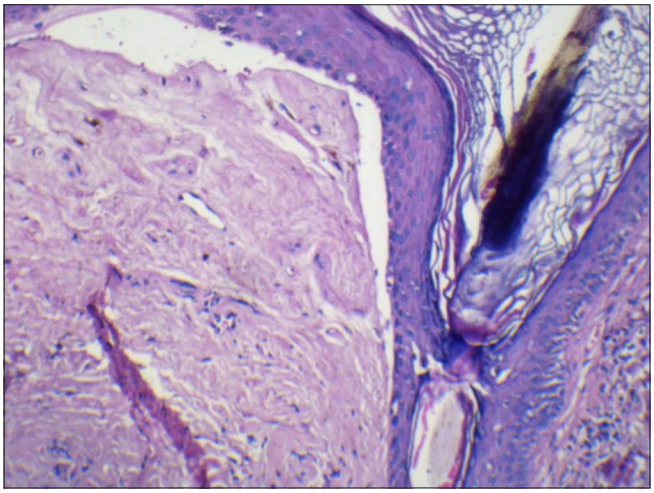

Figure 8: Histopathology showing follicular plugging and basal layer vacuolar degeneration (H and E, ×40)

diagnosis. Authors recommend studies with a large sample size for further evaluation.

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