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CLINICODEMOGRAPHIC PROFILE OF DISCOID LUPUS ERYTHEMATOSUS: A CASE SERIES OF 20 PATIENTS FROM TERTIARY CARE CENTRE

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ABSTRACT

Background: Discoid lupus erythematosus (DLE) is the most common subtype of cutaneous lupus erythematosus. It is characterized by persistent erythematous, scaly plaques that heal with atrophy, dyspigmentation, and scarring. Early diagnosis is essential to prevent irreversible scarring and to identify patients at risk of progressing to systemic lupus erythemtosus. **Objective:** To describe the clinical profile, histopathological findings, management, and outcomes of patients with discoid lupus erythematosus presenting to a tertiary care center. **Methods:** This case series included patients with clinically suspected DLE who underwent clinical evaluation and histopathological confirmation. Demographic data, lesion characteristics, laboratory investigations, treatment modalities were reviewed. **Results:** Patients commonly presented with well-defined erythematous to hyperpigmented scaly plaques involving photo-exposed sites, particularly the face and scalp. Histopathological examination demonstrated characteristic features like hyperkeratosis, follicular plugging, interface dermatitis, basal cell degeneration, thickened basement membrane, and perivascular and periappendageal lymphocytic infiltrates. Most patients responded favorably to photoprotection, topical and oral corticosteroids, and hydroxychloroquine, with reduction in disease activity and stabilization of lesions. **Conclusion:** Discoid lupus erythematosus remains an important differential diagnosis of chronic scarring dermatosis. Careful clinicopathological correlation, early diagnosis, and prompt treatment are essential to prevent permanent scarring and improve patient outcomes. Long-term follow-up is recommended to monitor disease activity and detect possible progression to systemic lupus erythematosus.

KEYWORDS : scarring alopecia, carpet tack sign, lupus erythematosus

INTRODUCTION

Discoid lupus erythematosus (DLE) is the most common variant of chronic cutaneous lupus erythematosus (CCLE), characterized by persistent erythematous, hyperkeratotic plaques with adherent scales that heal with scarring, atrophy, dyspigmentation. It mainly affects photo-exposed areas, particularly the face, scalp, lips and ears, leading to significant cosmetic morbidity and psychosocial distress [1].

The exact etiopathogenesis of DLE remains incompletely understood and is believed to result from a complex interplay between genetic predisposition, environmental factors such as ultraviolet radiation and smoking, and immune dysregulation. Type I interferon signaling, autoreactive T cells, and B-cell activation contribute to chronic inflammation and tissue damage [2,3]. Although DLE is primarily confined to the skin, approximately 5–20% of patients with generalized disease and a smaller proportion with localized disease may subsequently develop systemic lupus erythematosus (SLE). Hence, early diagnosis and long-term follow-up is required [4].

The diagnosis of DLE is mainly based on characteristic clinical findings supported by histopathological examination and in selected cases, direct immunofluorescence. Dermoscpoy helps in diagnosis and ruling out differentials. Early initiation of treatment with strict photoprotection, topical corticosteroids, topical calcineurin inhibitors, intralesional corticosteroids, systemic antimalarial agents and immunosupressants is essential to prevent irreversible scarring and disease progression [1,2].

The present case series describes the demographic characteristics, clinical features, histopathological findings, treatment modalities and outcomes of patients with discoid lupus erythematosus managed at a tertiary care center.

RESULTS

A total of 20 patients with clinically suspected DLE were included in this case series and later confirmed with histopathological examination. Patients were followed up for 5 years. The age of the patients ranged from 18 to 65 years, with the highest frequency observed in the 30–50-year age group. The mean age was 38.9 ± 11.4 years. There was a female predominance, with 14 (70%) females and 6 (30%) males, giving a female-to-male ratio of 2.3:1.

The average duration of disease before presenting to dermatology outpatient department was 18 months (ranging from 2 months to 10 years). Most patients presented with slowly progressive, asymptomatic to mildly pruritic plaques over sunexposed areas. All patients had history of chronic sun-exposure amongst them most were farmers.

The face was the most commonly affected site, seen in 16 (80%) patients, followed by the scalp in 11 (55%), ears in 8 (40%), lips in 6 (30%), neck in 5 (25%), and upper limbs in 4 (20%). Truncal lesions were noted in 3 (15%) patients.

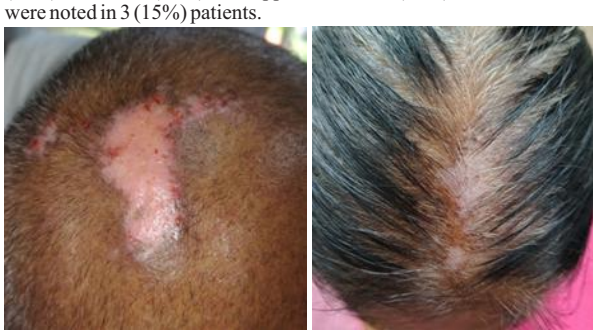

FIG 1- Erythematous to depigmented plaque with scarring alopecia present on scalp

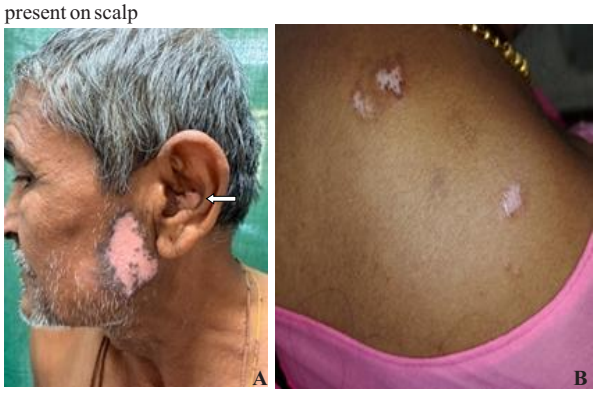

FIG 2- a) Depigmented atrophic macules on right cheek and in ear concha (positive shuster's sign depicted with white arrow) b) depigmented macules on photo-exposed areas of upper back

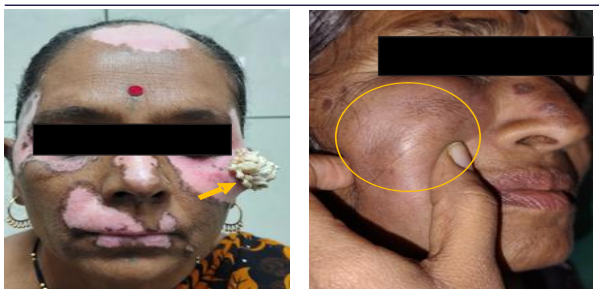

FIG 3- a) Multiple depigmented atrophic plaques on photo-exposed areas of the face (forehead, temples, convexity of the nose, upper and lower lips) and cauliflower like growth (yellow arrow) arising from the plaque over right cheek. b) Hyperpigmented scaly plaques on nose and lupus profundus (yellow circle)

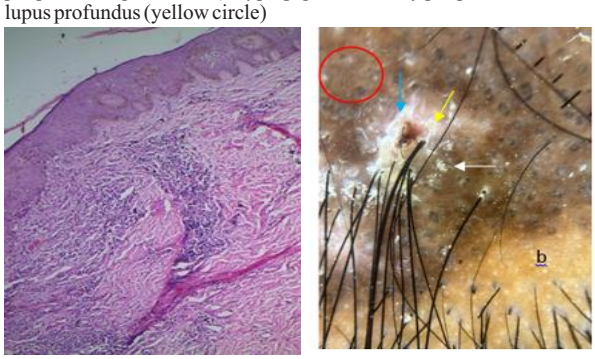

FIG 4- a) Hyperkeratosis, epidermal atrophy, follicular plugging, basal cell degeneration. Dense perivascular and periappendageal infiltrate of lymphocytes and plasma cells with focal interface vacuolar change. Findings consistent with DLE. b) Dermoscopy of scalp lesions shows follicular plugging (white arrow), whitish-pink background (blue arrow), white patchy scales (yellow arrow), white globules indicating empty follicular openings (red circle)

Localized DLE was observed in 15 (75%) patients, whereas 5 (25%) had generalized disease. Classic erythematous plaques with adherent scales were present in most of the patients. Carpet tack sign was positive. Follicular plugging was observed in 17 (85%), atrophy in 14 (70%), dyspigmentation in 15 (75%), and scarring in 13 (65%), cicatricial alopecia of scalp in 9 (45%) patients. One patient had non-tender, firm, cauliflower like growth approximately 4x4cm in size arising from the plaque of DLE (figure 3a). It was completely excised and histologically confirmed as cutaneous horn without atypical cells.

Antinuclear antibody (ANA) positivity was detected in 6 (30%) patients. Anti-double-stranded DNA antibodies were positive in 1 (5%) patient, who fulfilled the diagnostic criteria for systemic lupus erythematosus during follow-up. Routine hematological investigations were within normal limits in most patients.

4-mm punch biopsy was done in all cases from lesional skin to confirm the diagnosis. Histopathological findings including hyperkeratosis, follicular plugging, epidermal atrophy, basal cell degeneration, thickened basement membrane, and dense perivascular and periappendageal lymphocytic infiltrate. These findings were consistent with discoid lupus erythematosus.

Dermoscopy revealed whitish-pink background, follicular openings, white scales, arborizing blood vessels, empty follicles.

All patients received strict photoprotection and topical corticosteroids or topical calcineurin inhibitors. Oral hydroxychloroquine (200–400 mg/day) was prescribed to 18 (90%) patients. Methotrexate (15mg/week) was prescribed in 5 (25%) patients. 1 patient (5%) received thalidomide (300mg/day) who was resistant to conventional treatment.

DISCUSSION

Discoid lupus erythematosus (DLE) is the most common variant of cutaneous lupus erythematosus and is characterized by chronic inflammatory erythematous, hyperpigmented or depigmented plaques with adherent scales. After removing the adherent scale, follicle-sized keratotic spikes similar to carpet tacks can be seen (carpet tack sign) [5]. These plaques heal with atrophy, dyspigmentation, and permanent scarring. The disease predominantly affects photo-exposed areas, particularly the face, scalp, lips, ears, and neck. Scaly, atrophic plaques inside ear concha known as shuster's sign is a characteristic sign of DLE [6]. Early diagnosis and prompt treatment are essential to prevent irreversible cosmetic disfigurement and scarring alopecia [7,2].

The diagnosis of discoid lupus erythematosus is generally made based on clinical features. Histology may be required to confirm the diagnosis. Histopathological examination demonstrated characteristic findings including hyperkeratosis, follicular plugging, epidermal atrophy, basal cell degeneration, thickening of the basement membrane, and superficial and deep perivascular and periappendageal lymphocytic infiltrates, confirming the diagnosis of dicoid lupus erythematosus [2,8].

Follicular plugging, perifollicular whitish halos, starburst pattern, follicular red dots and rosettes are detected in the early stages of the disease but structureless whitish areas and telangiectasia apparently develop over time [9].

DLE can affect all ages but predominantly affects women in the third to fifth decades of life, with a female-to-male ratio ranging from 2:1 to 5:1. [7,10].

The differential diagnosis of DLE includes chronic eczema, psoriasis, seborrhoeic dermatitis, tinea capitis, lichen planopilaris, prurigo nodularis and sarcoidosis. Clinicopathological correlation remains the cornerstone for diagnosis, particularly in atypical lesions where histopathology and direct immunofluorescence may aid in excluding other inflammatory dermatoses [2,11].

Although DLE is primarily limited to the skin, progression to systemic lupus erythematosus (SLE) has been reported in approximately 5–20% of patients. Factors associated with systemic progression include generalized DLE, positive antinuclear antibody (ANA), hematological abnormalities, and the presence of systemic symptoms. Therefore, all patients with DLE require baseline systemic evaluation and long-term follow-up [8,10]. DLE tends to run a less severe course than SLE and has a better prognosis.

Current treatment strategies focus on photoprotection, smoking cessation, topical, oral or intralesional corticosteroids or topical calcineurin inhibitors and systemic antimalarial agents such as hydroxychloroquine. For patients with extensive or refractory disease methotrexate, cyclosporin, mycophenolate mofetil, azathioprine, oral retinoids, thalidomide may be needed. Early institution of therapy reduces disease activity, prevents irreversible scarring, and improves long-term cosmetic outcomes in most of the patients [7,8,11].

CONCLUSION

The present case series highlights the diverse clinical presentations of DLE and emphasizes the importance of maintaining a high index of suspicion, especially in patients with chronic scarring plaques on photo-exposed sites. Histopathological confirmation and early initiation of appropriate therapy are essential to minimize morbidity and improve quality of life. Long term follow-up and multidisciplinary approach is needed to rule out systemic lupus erythematosus. However, the relatively small sample size and limited follow-up period remain important limitations of this case series.

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