TRIDHA
Journal of Clinical Cases & Reports
Volume 2025, Issue 4, pages 5
https://doi.org/10.46619/joccr.2025.8-1186

CLINICAL REVIEW

Clinical and Trichoscopic Features of Scalp Dermatomyositis

Lamis Elyamani[1*], Ouissal Hormi[1], Nassiba Zerrouki[1,2] and Nada Zizi[1,2]

[1]*Department of Dermatology, Mohammed VI University Hospital of Oujda, Medical School of Oujda, Mohammed First University of Oujda, Morocco*
[2]*Department of Epidemiology, Clinical Research and Public Health Laboratory, Medical School of Oujda, Mohammed First University of Oujda, Morocco*

Correspondence should be addressed to Lamis Elyamani, Department of Dermatology, Mohammed VI University Hospital of Oujda, Medical School of Oujda, Mohammed First University of Oujda, Morocco

Received: 26 July 2025; Accepted: 25 August 2025; Published: 4 September 2025

ABSTRACT

Dermatomyositis of the scalp is a frequent but little-known entity. Only few studies have described its trichoscopic features. We report a case study of 22 case of dermatomyositis of which 10 patients present scalp dermatomyositis. The aim of our retrospective case study is to describe the features of SDM and its trichoscopic features, including the vascular patterns seen and their similarity to vascular changes observed in dermoscopy of the proximal nail fold. We also insist on the importance of trichoscopy for diagnosis of scalp involvement in patients with DM especially for isolated scalp involvement and eliminate differential diagnoses.

KEYWORDS

Scalp dermatomyositis; Non scarring alopecia; Tortuous capillaries

INTRODUCTION

Dermatomyositis (DM) is an idiopathic inflammatory myopathy characterized by an inflammatory infiltrate primarily affecting the skeletal muscle and skin. It can also affect other organs such as lungs and joins [1]. DM is a rare disease; it is more common among females [1]and in low geographical latitude countries [2]. Its reported incidence ranges from 1.2 to 17 new cases per 1,000,000 inhabitants with a prevalence between 5 and 11 cases per 100,000 individuals [1].

Scalp dermatomyositis (SDM) was shown to have a relatively high frequency, even if studies are relatively small (range: 28%-82%) [3]. SDM is characterized by atrophic, erythematous, sometimes pruritic scaly plaques. It may be misdiagnosed as psoriasis or seborrheic dermatitis [4].

Citation: Lamis Elyamani (2025) Clinical and Trichoscopic Features of Scalp Dermatomyositis. J Clin Cases Rep 8(4): 120-125.

The aim of this study is to describe the features of SDM and its trichoscopic features, including the vascular patterns seen and their similarity to vascular changes that have been extensively studied by dermoscopy of the proximal nail fold.

METHODS

We retrospectively reviewed the case records of all patients diagnosed with dermatomyositis from June, 2014 to March, 2023 in the Dermatology and Venereology Department of Mohammed VI University Hospital in Oujda city. All patients with a diagnosis of DM (with or without associated malignancy) fulfilling Bohan and Peter's criteria and/or the European League Against Rheumatism/American College of Rheumatology (EULAR/ACR) were included. Information obtained included patient demographics, clinical and dermoscopic data. Informed consent was obtained from all patients to take scalp clinical and trichoscopic images. A DermLite hybrid dermatoscopy was used to obtain scalp images.

RESULTS

Twenty-two patients were included, with a mean age of 54 +/-21 years (range: 12-82 years). Eighteen patients were female (81.8 %) and four patients were male (18.2%). DM was associated with neoplasia in 8 cases. Scalp dermatomyositis was evident in 10 (45.4 %) patients on clinical examination.

It was characterized by erythema of the scalp in 9 cases (90%), erythamto-squamous plaques in 8 cases (80%), pruritus in 7 patients (70%), alopecia in 4 (40%) patients and scalp erosion in 1 (10 %) patient. No patient presented with calcinosis or scalp poikiloderma. All patients had classical findings of a DM flare in association with SDM and no patient had isolated scalp involvement.

The most common trichoscopic findings included interfollicular white scales in 8 cases (80%), peripilar casts (60%), enlarged tortuous capillaries (like those observed in the proximal nail fold) in 5 patients (50%), white areas lacking follicular openings in 2 cases (20%). Other findings included tufting with 3 or more hair shafts emerging together, interfollicular pigmentation and perifollicular pigmentation in 1 case (10 %). No vascular lake-like structures were observed (Figure 1 and 2).\

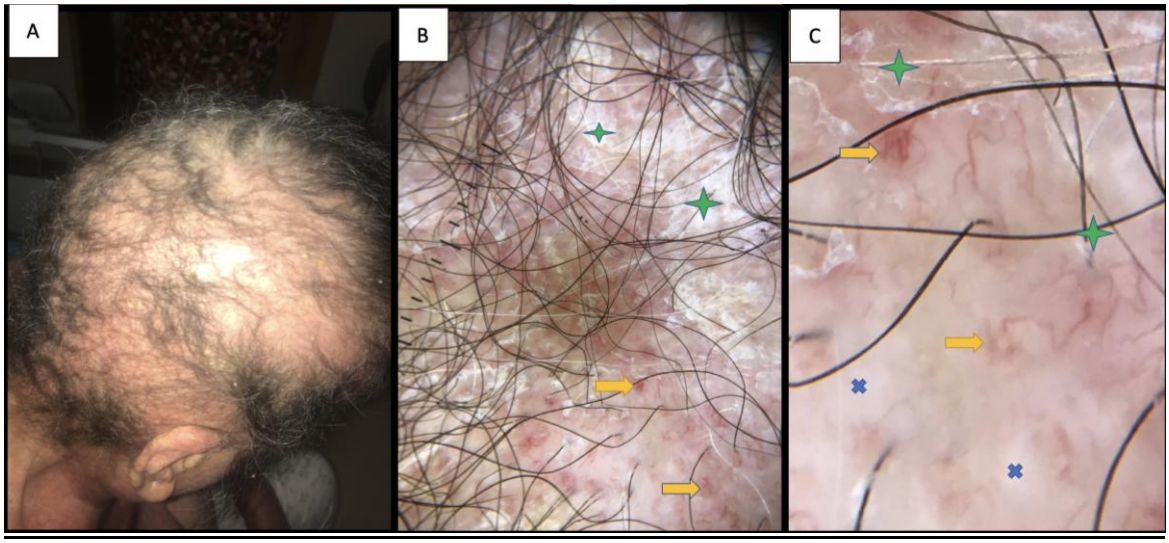

Figure 1: (A) Clinical image of non-scarring alopecia associated with erythamto-squamous plaques **(B,C)** Dermoscopic image of non-scarring alopecia showing tortuous enlarged capillaries (), interfollicular scales. () and white structureless areas ()

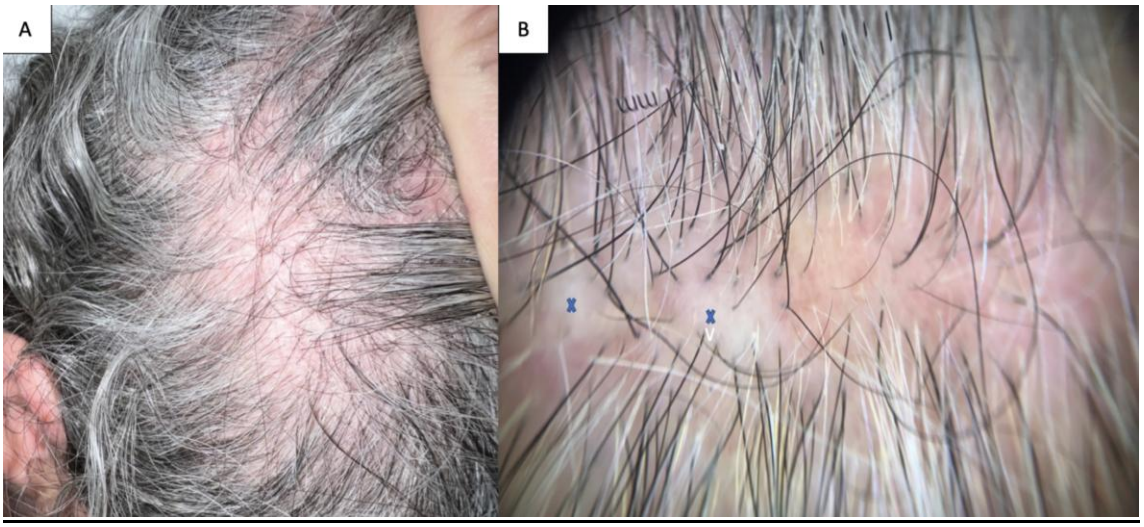

Figure 2: **(A)** Non scarring alopecia associated with erythema of the scalp. **(B)** White structureless areas on trichoscopy (✖).

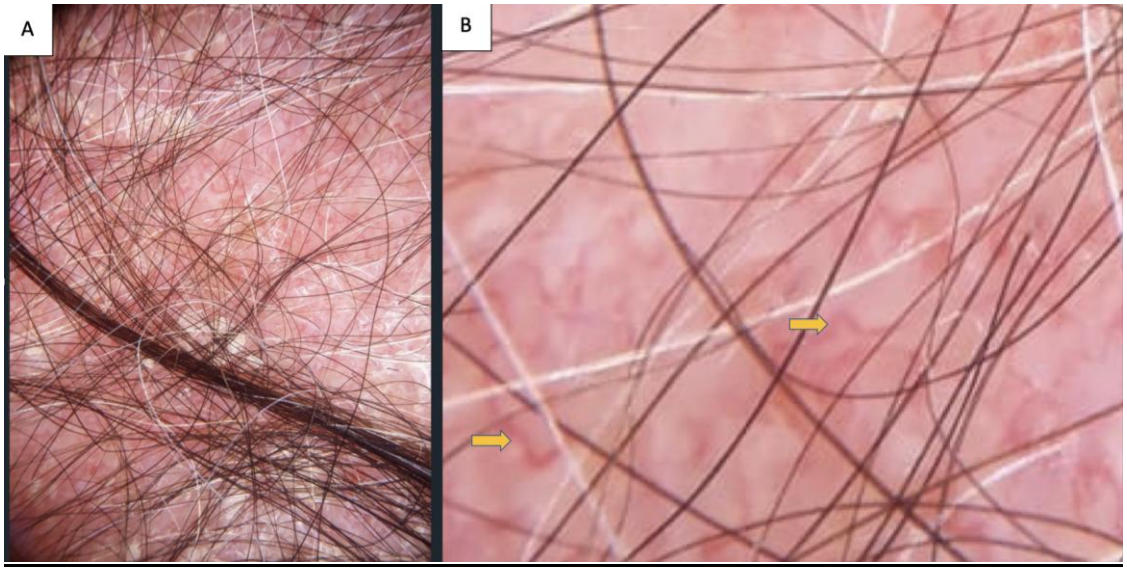

Figure 3: **(A)** Erythematous scaly plaques of the scalp. **(B)** Tortuous enlarged capillaries on trichoscopy.

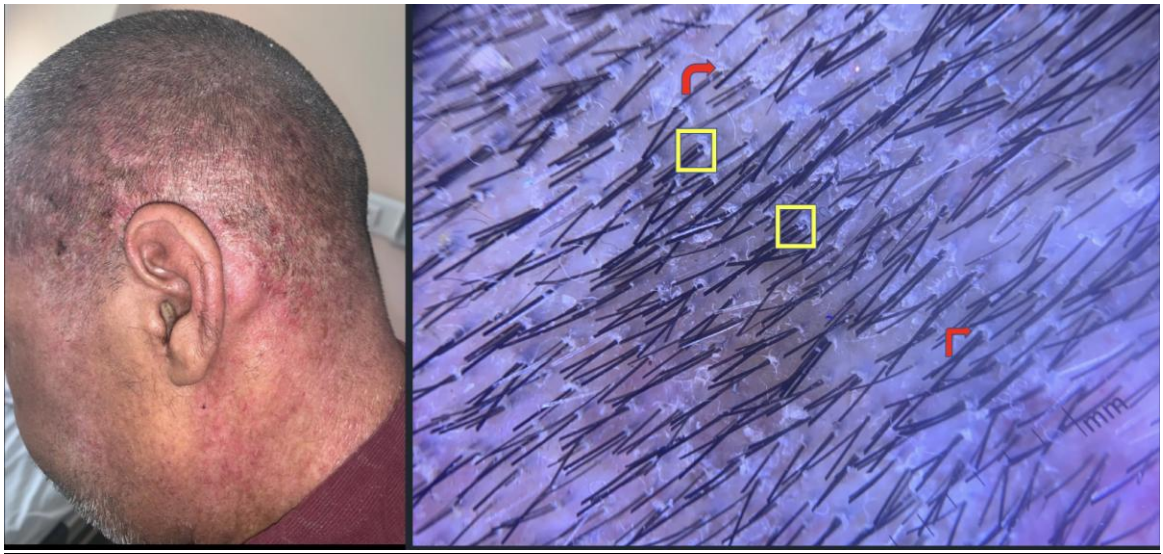

Figure 4: **(A)** Erythematous scaly plaques of the scalp**. (B)** Peripilar casts ↱ associated with tufted hair with 3 or more hair shafts emerging together**.** ▢

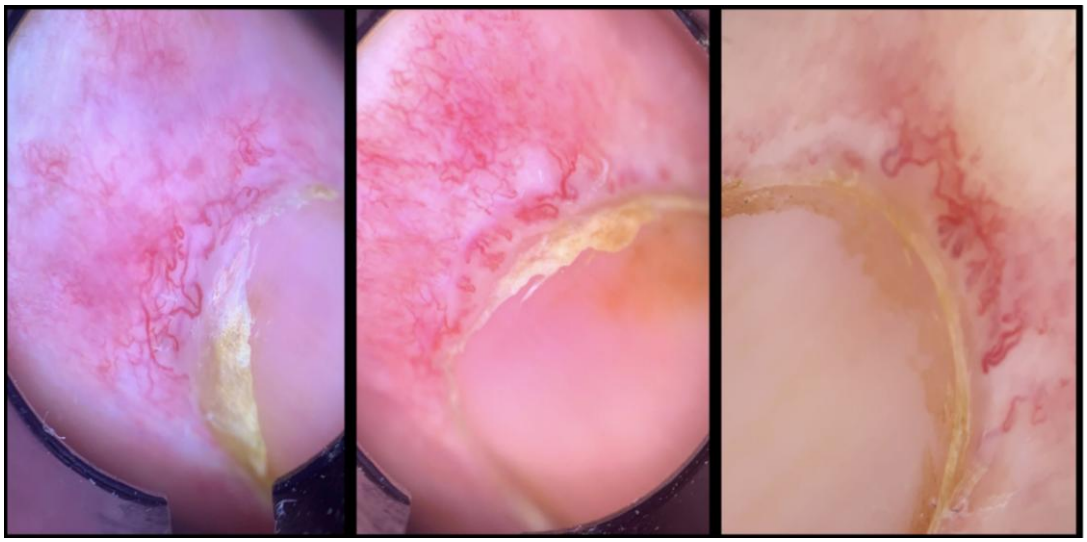

Figure 5: Peri-ungual dermoscopy showing enlarged tortuous and bushy capillaries and avascular areas.

DISCUSSION

Only few studies reported scalp dermatomyositis. The prevalence of scalp dermatomyositis ranges from (28%-82%) according to different studies [3]. In this study, the prevalence of SDM was 40%.

Scalp involvement in dermatomyositis is common and is manifest by an erythematous to violaceous psoriasiform dermatitis, non-scarring alopecia, poikiloderma and pruritus [3].

Scalp dermatomyositis may precede other cutaneous findings (Gottron papules, Gottron sign, heliotrope rash, shawl sign…) or appear later during disease evolution, it commonly follows a flare of the systemic disease [5].

The most common trichoscopic findings are interfollicular scales, peripilar casts, hair tufting, interfollicular ans peri- follicular pigmentation, white or pinkish structureless areas. enlarged tortuous capillaries, linear branched vessels, linear vessels, linear curved vessels and vascular lake-like structures [3,6,7] which is similar to the conclusions of our study where all patients presented some trichoscopic alteration and the most frequently observed signs.

Clinical distinction from other inflammatory diseases of the scalp such as seborrhoeic dermatitis or psoriasis is occasionally difficult, but dermoscopic patterns and histopathological assessment are helpful [5]. The most characteristic trichoscopic findings of seborrheic dermatitis include the presence of yellowish scaling and multiple thin arborizing vessels like that seen in normal scalp, but are increased in number. In psoriasis, vessels appear as red globular rings and red globular lines at low magnifications and as globules arranged into rings or lines at high magnification [8].

It is important to mention that there are some dermoscopic similarities between DM and lupus erythematosus (LE). A recent study conducted by Chanprapaph et al. [9] on trichoscopic findings found that DM shows some similarities with LE. Interfollicular scales, white patches, dotted vessels, and thin or thick arborizing vessels ware observed with comparable frequency in DM and systemic lupus erythematosus (SLE). On the other hand, perifollicular red-brown pigmentation, perifollicular scaling, and tortuous dilated capillaries were found to be specific for DM.

Peripilar casts and white areas lacking follicular openings are characteristic of scarring alopecias such as lichen planopilaris, frontal fibrosing alopecia, and discoid lupus erythematosus but are not pathognomonic [3], [8]. Indeed, SDM shows these features even if the alopecia is nonscarring.

It is interesting to notice the close similitudes between nail fold and scalp capillary changes. The tortuous capillaries have the same appearance described in the nail fold which is the expression of diffuse microangiopathy that has been widely described in the pathophysiology of dermatomyositis [10]. In our study 5 patients presented enlarged tortuous capillaries in trichoscopy similar to those observed in the proximal nail fold at peri ungual dermoscopy.

Proximal nail fold capillaroscopy abnormalities have been associated with disease activity and response to treatment [11], [12], but we still do not know if the scalp capillary changes can also be modified by treatment.
The literature regarding treatments for scalp DM remains limited. Standard therapies for cutaneous DM, such as corticosteroids, methotrexate, and hydroxychloroquine, may be less efficacious for scalp symptoms. Further evaluation with larger clinical trials is necessary to better determine the clinical utility of these therapies [13].

CONCLUSION

Trichoscopy of scalp dermatomyositis shows features like those found at capillaroscopy. It is a very important tool for diagnosis of scalp involvement in patients with DM especially for isolated scalp involvement.

Only few studies have described trichoscopic features of scalp dermatomyositis, further studies are necessary to compare these features to the normal population and to determine their correlation to disease activity and response to treatment.

CONSENT

Written informed consent was obtained from patients to publish scalp clinical and trichoscopic images.

Statement of Ethics

Ethics approval was not required due to national guidelines; indeed, our work is a retrospective observational study that was conducted through the collection of patient' various data using our university hospital' software, no active interventions were performed on patients, the enrolled patients have all signed an approval statement in which their data and picture could be used for scientific purposes.

However, the written consent to publish the study was given and is available to check by the handling editor if needed.

Conflict of Interest Statement

The authors declare no conflict of interest

Funding Sources

None

Acknowledgments

We would like to thank the team of dermatology of university hospital for their management and availability.

Data Availability Statement

All data generated or analyzed during this study are included in this article. Further enquiries can be directed to the corresponding author.

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