Section: DVL

Case Series

CLINICAL AND DERMOSCOPIC FEATURES OF TOPICAL STEROID DAMAGED FACE IN SOUTH INDIAN POPULATION - A CASE SERIES

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ABSTRACT

Background: Topical corticosteroids have wide range of actions including anti-inflammatory, immunosuppressive, antiproliferative, antipruritic which are used to manage inflammatory, hyperproliferative and immunological disorders of skin. Topical steroid damaged face (TSDF) is a new entity described in the past 2 decades due to extensive, uncontrolled self-medicated use of topical steroids. **Objectives:** To describe the dermoscopic features of topical steroid damaged face (TSDF) in a case series. **Materials and Methods:** A case series of 10 female patients presented to the out patient department of a medical college hospital in Perambalur is presented with clinical features and dermoscopic findings. The study was conducted following the approval from the institutional ethics committee. Consent was obtained from all the study participants. The results are presented as descriptive data. **Results:** All the study patients were females with majority aged between 40 to 50 years. The most common clinical feature noticed was erythema which was present in 6 patients (60%). Brown globule was the most common (60% of patients) dermoscopic feature followed by red diffuse areas in 50%, white structureless areas and white hairs in 30% each, follicular plugging and micro pustules in 10% each. **Conclusion:** Dermoscopy is useful in analysing various findings of topical steroid damaged face.

INTRODUCTION

Topical steroid damaged face (TSDF) is a term that includes complex signs and symptoms that occur as a result of chronic misuse or overuse of the topical corticosteroid agents on face.[1]

Topical corticosteroids are available as over the counter medication in India. Long-term and inappropriate use of topical corticosteroids without proper supervision has significant negative consequences if used particularly on face. Though the potency of topical steroid agent mainly determines the adversity of the outcome, the patients those who are using mild steroids for a long period are also equally at risk of developing the features of topical steroid damaged face. Irrational use of topical corticosteroids on face leads to various cutaneous manifestations and also psychological dependence on the agent. It also causes temporary or permanent damage to skin of face.[2]

TSDF is characterised by presence of telangiectasia, dryness, facial hypertrichosis, acneiform eruptions, presence of pustules, erythematous papules, perioral dermatitis, cutaneous atrophy, and red face syndrome. TSDF needs early identification before it becomes an irreversible condition. The primary diagnosis of this condition is on the basis of clinical manifestations.

Dermoscopy is a noninvasive imaging technique which was initially used to evaluate melanomas and melanocytic nevi. It is a rapid yet effective technique to analyze various dermatological conditions and it also helps to visualize the changes in skin layers and subsurface skin structures. Dermoscopy can also be used for visual identification of the immediate and also the delayed features of topical steroid damaged face. Various features include telangiectasia, polygonal vessels, structureless white areas, erythema, scales and hypertrichosis. It is also useful for monitoring the patient's compliance to the treatment by serial evaluation.[3]

Aim and Objectives

To describe the dermoscopic features of topical steroid damaged face (TSDF) in a case series.

Review of Literature

A cross sectional study by Chauhan et al in India had reported that topical steroid damaged face was more common among females than males. It most commonly presents in the age group of 26 to 35 years as reported in this study. The most common topical steroid used in this study was beclomethasone dipropionate which was used by 1/3rd of the patients

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and 29% have used clobetasol propionate. The most common clinical feature reported in this study was erythema along with hyperpigmentation in 3/4th of the patients which was followed by erythema with telangiectasia in 34%. The most common dermoscopic finding in this study was red diffuse areas with vessels in 61%; red diffuse area along with exaggerated pigment network in 52% and clustered vellus hair along with white vellus hair in 44%.[4]

Another study by Ankad et al also reported this condition to be more common among females and in the age group of 31 to 40 years. The commonest clinical finding reported was erythema and hypertrichosis in 88% each. Hypopigmentation was reported to be common among females. Other features include telangiectasia, hypertrichosis, wrinkles and hypopigmentation. The most common dermoscopic feature was diffuse red areas in 94% and demodex tails in 18%. Nearly 16% of the patients had curvilinear brown to grey pigment, globules follicular obliteration and linear vessels.[5]

MATERIALS AND METHODS

Study design: Case series Study duration: 6 months
Study centre: Dhanalakshmi Srinivasan Medical College and Hospital
Study population: Patients with clinical symptoms and signs of topical steroid damaged face attending the outpatient department of Dermatology in a tertiary care centre.

Inclusion Criteria

Patients with history of application of topical steroid for a period of more than 1 month.

Patients using only steroid preparations were included Exclusion criteria:

Patients with TSDF with history of topical steroid use for less than a month Patients using combination preparations.

Patients not willing to participate in the study

Study tool :

DERMLITE DL4 HANDHELD DERMOSCOPY

Data collection

Data was collected using a case study proforma with which patient details such as demographic details, clinical features and dermoscopic findings were recorded.

Ethical approval: The study was approved by the Institutional Ethics Committee of Dhanalakshmi Srinivasan Medical College and Hospital.

RESULTS

Case 1: A 49-year-old female presented with clinical features of darkening of skin and burning sensation of face. History of topical steroid use was present for a period of 2 months. The dermoscopic features found in this patient were red diffuse areas, vessels with serpentine & linear pattern and brown globules. She was using topical steroid of class II potency.

Case 2: A 42-year-old female presented with darkening of skin to the out patient department. With assessment of clinical history it was found that the patient was using topical steroid for a period of 3 years. The patient was subjected to dermoscopy with which it was identified that the following features were present: Red globules, white hair and linear vessels. She was using topical steroid of class I potency.

Case 3: A 44-year-old female presented with darkening of skin (hyperpigmentation), wrinkles and hypertrichosis. History of topical steroid use was present for duration of 2 years. The dermoscopic features include brown globules, vessels (linear) and white hair. She was using topical steroid of class III potency.

Case 4: A 39-year-old female presented with hypopigmentation, dyspigmentation, atrophy, burning sensation and erythema. History of topical steroid use was present for duration of 6 months. She was using topical steroid of class II potency. Dermoscopic features include white structureless area, red diffuse areas, brown globules, vessels (polygonal, serpentine, branched, linear, 'Y' shaped).

Case 5: A 45-year-old female presented with erythema and photosensitivity. History of topical steroid use was present for a period of one year. The following dermoscopic features were frowned in this patient red diffuse areas and vessels (polygonal, serpentine, branched, linear, 'Y' shaped). She was using topical steroid of class II potency.

Case 6: At 29-year-old female presented with erythema and hypertrichosis of face. History of topical steroid use was present for a duration of 6 months. She was using topical steroid of class II potency. The dermoscopic features in this case include brown globules, serpentine/branched/linear vessels and red diffuse areas.

Case 7: A 21-year-old female presented with complaints of erythema, burning sensation and hypertrichosis of face. She was using topical steroid of class II potency. Clinical examination revealed presence of erythema. History of use of cosmetic containing steroid was present for a period of 2 years. On dermoscopic assessment it revealed presence of brown globules and serpentine/branched vessels.

Case 8: A 52-year-old female presented with erythema and burning sensation. History of steroid abuse was present for a period of 6 months. Dermoscopic examination revealed presence of polygonal vessels. She was using topical steroid of class I potency.

Case 9: A 48-year-old female presented with erythema, telangiectasia, hypertrichosis, hyperpigmentation, atrophy, wrinkles and hypopigmentation on face. History of steroid abuse was present for a period of 5 years. She was using steroid of class III potency. Dermoscopic examination revealed the presence of red defuse areas, linear/ serpentine/ polygonal and branched vessels, hypertrichosis, brown globules, white

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structureless areas, follicular plugging and micro pustules.

Case 10: A 30-year-old female presented with history of topical steroid abuse for a period of 3 years. On examination telangiectasia was present. She was using topical steroid of class II potency. Dermoscopic examination revealed presence of brown globules, white structureless areas, linear and serpentine vessels and white hair.

All the cases were females and 50% were aged between 40 to 50 years. The analysis of these cases revealed that most of the patients i.e., 6 (60%) were using topical steroid with class II potency (0.5% Triamcinolone acetonide ointment / 0.05% Betamethasone dipropionate) followed by class I (Clobetasol propionate) and class III (Fluticasone propionate ointment) by 2 (20%) patients each continuously as once daily application in the morning. These topical steroids were administered by all patients to treat facial hyperpigmentation / facial dermatitis – over the counter, recommended by relatives, friends and internet. This study exclusively ruled out usage of triple drug combination topical therapies in these patients, just to reduce the confounding effects of hydroquinone and tretinoin in skin damage.

Brown globule was the most common (60% of patients) dermoscopic feature found in these cases. Red diffuse areas was the next common presentation found in 5 (50%) cases.

White structureless areas was found in 3 cases (30%) and these patients were using class II drugs for more than 6 months or class III for longer duration.

White hair was present in 3 cases (30%).

Follicular plugging was seen in 1 patient who was using topical steroid for 5 years. Micro pustules was present in 1 case who was using topical steroid for 5 years.

The details of vascular features are explained in table 12.2.

Table 1: Table Details of patients those who presented with signs and symptoms of topical steroid damaged face

Age (years)/ Sex	Clinical features	Dermoscopic feature
49/ F	• Darkening of skin (Hyperpigmentation) • Burning sensation	• Red diffuse areas • Vessels (serpentine/ linear) • Brown globules
42/ F	• Darkening of skin (Hyperpigmentation)	• Vessels (linear) • Brown globules • White hair
44/ F	• Darkening of skin (Hyperpigmentation) • Wrinkles • Hypertrichosis	• Vessels (linear) • Brown globules • White hair
39/ F	• Hypopigmentation • Dyspigmentation • Atrophy • Burning sensation • Erythema	• White structureless area • Red diffuse areas • Brown globules • Vessels (Polygonal serpentine branched linear 'Y shaped')
45/ F	• Erythema • Photosensitivity	• Vessels (Linear/ Branched 'Y shaped/ polygonal// serpentine) • Red diffuse areas
29/ F	• Erythema • Hypertrichosis	• Brown globules • Vessels (serpentine/ linear/ branched) • Red diffuse areas
21/ F	• Erythema • Burning sensation • Hypertrichosis	• Brown globules • Vessels (serpentine and branched)
52/ F	• Erythema • Burning sensation	• Vessels (Polygonal)
48/ F	• Erythema • Telangiectasia • Hypertrichosis • Hyperpigmentation • Atrophy • Wrinkles • Hypopigmentation	• Red diffuse area • Vessels (Linear serpentine polygonal branched) • Hypertrichosis • Brown globules • White structureless area • Follicular plugging • Micro pustules
30/ F	• Telangiectasia	• Brown globules • White structureless area • Vessels (Linear serpentine) • White hair

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Table 2: Table Vascular features among the patients

Vascular structures	Number of patients	Percentage
Linear	8	80%
Branched	5	50%
Polygonal	4	40%
Serpentine	3	30%
Y shaped	2	20%

Figure 1: Figures Clinical and dermoscopic images of case 1 - Brown globules (Black circle), Linear vessels (Black square)

Figure 3: Figures Clinical and dermoscopic images of case 3 - White hair (Blue arrow), Linear vessels (Black arrow), Brown globules (Black Circle)

Figure 2: Figures Clinical and dermoscopic images of case 2 - Brown globules (Black circle), Linear vessels (Black arrow)

Figure 4: Figures Clinical and dermoscopic images of case 4 - White structureless area (Black arrow), Red diffuse area (Blue arrow)

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Figure 5: Figures Clinical and dermoscopic images of case 5 - Y-Shaped vessels (Blue arrow)

Figure 6: Figures Clinical and dermoscopic images of case 6 - Red diffuse area (Black circle) Linear vessels (Black arrow) Brown globules (Red circle)

Figure 7: Figures Clinical and dermoscopic images of case 7 - Branched vessels (Black square) Brown globules (Black circle)

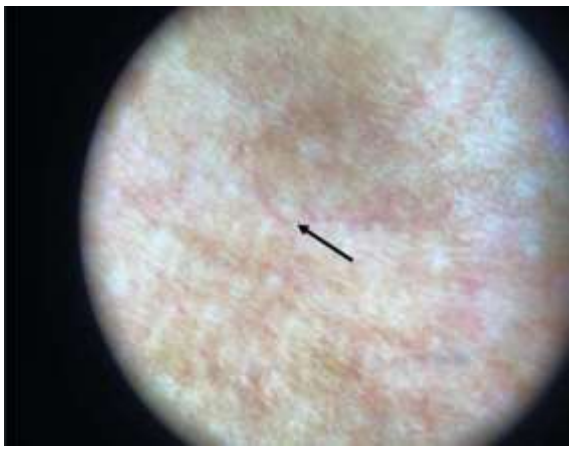

Figure 8: Figures Dermoscopic image of case 8 - Vessels (Black arrow)

Figure 9: Figures Clinical and dermoscopic images of case 9 - Polygonal vessels (Blue circle), Red diffuse area (Black circle), White structureless area (Blue arrow) Brown globules (Red circle)

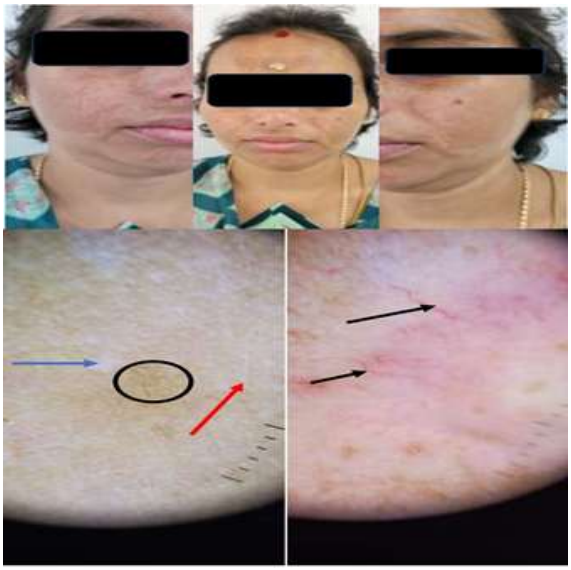

Figure 10: Figures Clinical and dermoscopic images of case 10 - Brown globules (Black circle) White hair (Red arrow) white structureless area (Blue arrow), Linear vessels (Black arrow)

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DISCUSSION

The case series included 10 cases of patients those who presented with feature of TSDF. All the patients in the present study were females. A study by Kushwah et al also reported female preponderance with 90% of female cases.[6] Another study by Mamatha et al also reported female predominance in TSDF with 80% of female patients in their study.[7] Female preponderance was reported in another study by Meghe et al.[8] Significantly higher proportion of females were reported to use topical steroids on face than males in a study by Saraswat et al.[9]

Majority of the patients (60%) in our study were using topical steroids for more than a year. Similar results were reported in a study by Mamatha et al in which 50% were reported to be use topical corticosteroids for 1 to 10 years. 7

Presence of brown globule was the most common feature in the present study among 60% of the cases which was reported among 84% of the female patients in a study by Ankad et al.[5] Brown globules was reported in 80% of the cases in a study by Chauhan et al.[4] A study by Mamatha et al reported brown globules among 55% of the cases.[7]

The second most common feature with dermoscopic examination in the present study was red diffuse areas which was present in 50% of cases. Another study by Ankad et al revealed the presence of diffuse red areas in 94% of the female patients.[5] A study by Chauhan et al also reported red diffuse areas as the most common feature in dermoscopic examination of patients with TSDF.[4] Another study by Mamatha et al reported red diffuse areas among 75% of the cases which was the common dermoscopic feature in their study.[7]

White structureless areas was found in 3 cases (30%) in the present study. Another study by Mamatha et al reported white structureless area among 37.5% of the patients.[7]

In our study white hair was present in 3 cases (30%). White hair was present among 5% of the study patients in a study by Mamatha et al.[7]

Telangiectasia was present in 2 females (20%) in the present study. Telangiectasia with erythema was reported as the most common clinical feature in a study by Meghe et al.[8]

Presence of linear vessels was the most common vascular structure identified in the present study among 80% of the cases. Similar to our study, another study by Mamatha et al also reported linear vessels as a common vascular structure which was reported among 60% of the patients.[7] The most common vascular structure reported in a study by Ankad et al among female patients was serpentine vessels in 68% of the cases.[5] A study by Chauhan et al also reported serpentine vessels as the common vascular feature.[4] Linear vessels was reported among 65% in a study by Ankad et al.[5] In our study we noticed polygonal vessels in 40% of the cases. In a study by Kushwah et al, polygonal vessels were reported among 73.8% of the study group.[6]

The common dermoscopic features reported in a review by Ramapure et al were brown globules, white structureless areas, hypertrichosis, serpentine vessels, red diffuse areas, white hair and follicular plugging of decreasing frequency.[10] These findings are observed in our study reflecting that the results are similar to other studies.

In the present study follicular plugging was seen in 1 patient (10%) with long duration of topical steroid use. This finding is almost similar to another study by Mamatha et al who found follicular plugging among 7.5% of the cases.[7] A study by Ankad et al reported follicular plugging in 22% of the cases.[5] Another study by Kushwah et al reported follicular plugging among 32.5% of the cases.[6]

In our study we noticed micro pustules in 1 case who had used topical steroid for 5 years. A study by Kushwah et al reported pustules among 15% of the cases.[6]

CONCLUSION

The present case series has identified various clinical and dermoscopic features of topical steroid damaged face. TSDF is one of the common entities among females. Uncontrolled, unauthorized use of topical steroids with different level of potency (I to III) is reported by the patients. Most of the patients have used topical steroids for more than 6 months which seems to be alarming since it is associated with multiple manifestations. The potency of topical corticosteroid used did not appear to alter the dermoscopic findings much. This further needs to be correlated with the duration of topical corticosteroid used for better interpretation. Corticosteroid containing cosmetic creams are also used by the patients which has to be regulated. Patient education on side effects of longterm, unsupervised used of steroids need to be done while prescribing topical steroids. A check on over the counter sale of topical corticosteroid will also help to combat the issue.

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REFERENCES

1. Bhat, Y.J., Bashir, S. (2022). Topical Steroid Damaged Face in Females with Skin of Colour. In: Sarkar, R., Sinha, S. (eds) Skin Diseases in Females. Springer, Singapore. https://doi.org/10.1007/978-981-16-6065-8_6
2. Lahiri K, Coondoo A. Topical steroid damaged/dependent face (TSDF): an entity of cutaneous pharmacodependence. Indian J Dermatol. 2016;61(3):265-72.
3. Tatu AL. Topical steroid induced facial rosaceaiform dermatitis. Acta Endocrinol (Buchar) 2016;12:232-3.
4. Chauhan S, Singhal R, Choudhary V, Rathoriya SG. Characterization of isolated and integrated clinical and dermoscopic features of topical steroid-dependent/damaged face: A study from central India. Our Dermatol Online. 2024;15(1):26-32.

ISSN (O): 2687-5365; ISSN (P): 2753-6556

5. Ankad BS, Anusha HL, Raghuveer C, Nikam B, Rangappa M. Skin Changes on the Face Caused by Over-the counter Cosmetic Creams: An Observational Study of Clinical and Dermoscopy Features. Indian Journal of Pharmacy Practice. 2023;16(1):13-19.
6. Kushwah S, Namdeo C, Bhatia K. Study of clinicodermoscopic features of topical steroid damaged face patients. Int J Res Dermatol 2023;9:226-32.
7. Mamatha P, Sruthi Kareddy, Haarika Sadhu. Dermoscopic pattern of the topical steroid damaged face: A cross-sectional, observational study at a tertiary referral center in south India. Our Dermatol Online. 2023;14(3):253-258.
8. Meghe S, Saoji V, Singh AL, Kashikar Y, Rusia K, Ramapure R. Topical Steroid Damaged Face - A Dermascopic Analysis. J Pharm Bioallied Sci. 2024;16(Suppl 2):S1510-S1511.
9. Saraswat A, Lahiri K, Chatterjee M, Barua S, Coondoo A, Mittal A, et al. Topical corticosteroid abuse on the face: A prospective, multicenter study of dermatology outpatients. Indian J Dermatol Venereol Leprol 2011;77:160-6.
10. Ramapure R, Jawade S, Madke B. A review on dermoscopic findings in cases of topical steroid damaged face. J Datta Meghe Inst Med Sci Univ 2022;17:519-23.

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