



DERMOSCOPY OF TOPICAL STEROID DAMAGED FACES

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**ABSTRACT**

Topical corticosteroid (TCS) misuse is widespread and can lead to steroid addiction, clinically recognized as topical steroid-dependent or damaged face (TSDF). In India, the market is flooded with low-cost, over-the-counter triple combination creams containing TCS, encouraging unsupervised usage. When the resulting skin damage is identified late, it is often irreversible and challenging to manage. Dermoscopy offers valuable assistance in detecting early, preclinical signs of TSDF, which can significantly improve treatment outcomes. It serves multiple purposes for dermatologists, including confirming the diagnosis, distinguishing TSDF from other causes of facial redness, and estimating the likely duration of TCS misuse.

**KEYWORDS :** Topical steroids, Dermoscopy, Topical steroid damaged faces

**INTRODUCTION**

Topical corticosteroids(TCS) have been widely utilized in dermatology for their potent anti-inflammatory properties. In addition to their anti-inflammatory effect, TCS possess anti-proliferative, immunosuppressive, anti-pruritic, atrophogenic, melanopenic and sex-hormone like effect on the skin. The first Topical corticosteroid Hydrocortisone, was introduced to the dermatological field by Sulzberger and Witten in 1952. However, the misuse of TCS, particularly on the face, has led to the condition known as Topical Steroid Damaged/ Dependent Face (TSDF). TSDF is characterized by semi-permanent or permanent damage to the facial skin due to irrational, indiscriminate, unsupervised or prolonged use of TCS. This misuse results in a range of cutaneous signs and symptoms includes erythema, acne, atrophy, rosacea, telangiectasia, perioral dermatitis, striae, as well as psychological dependence on the drug.

**Aim:** To study the clinical features of topical steroid damaged face using a dermoscope

**Objectives:** 1. To identify various dermoscopic features in patients with Topical steroid Damaged Faces. 2. To correlate clinical and dermoscopic features of Topical steroid damaged face

**MATERIALS AND METHODS**

Clinically diagnosed 32 patients of Topical steroid damaged faces are studied during a period of April 2023 to April 2024.

**Inclusion Criteria:** 1. Patients aged 18 years or older, presenting with clinical symptoms and signs suggestive of Topical steroid damaged faces 2. History of applying TCS on the face for more than one month were included in the study.

**Exclusion Criteria**

1. Patients who were not cooperative or not willing to participate in the study. 2. History of rosacea, pre-existing comorbidities such as Cushing syndrome, Polycystic ovary syndrome, thyroid disorders, pregnancy, ongoing treatment with oral corticosteroids.

After receiving written informed consent from patients, a cross-sectional study was conducted on 32 patients with facial dermatosis. A detailed history of age, gender, education, socioeconomic status, duration of TCS application and source

of recommendation was taken and detailed clinical and dermoscopic examination was carried out in all the patients. The findings were recorded and tabulated, the results were analyzed and discussed in detail.

**RESULTS**

**Table - 1**

Demographic characteristics of study subject (n=32)	
Characteristics	Number (%)
Age group (years)	
18-30 years	21(65.6%)
31-40 years	6(18.7%)
>40 years	5(15.6%)
Gender	
Male	10(31.2%)
Female	22(68.7%)
Education	
Illiterate	9 (28.1%)
Literate	23(71.8%)
Duration of TCS application(years)	
<1	23(71.8%)
1 to 10	9 (28.1%)
Frequency of application	
Daily	24(75%)
2-3 times/week	8(25%)

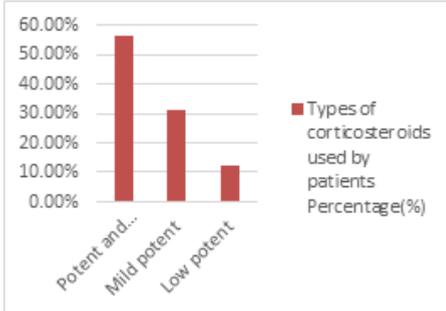
**Table - 2**

Indication of application	
Acne	5(15.6%)
Melasma	
Tinea	5(15.6%)
General face cream	3(15.6%)
Fairness cream	3(15.6%)
Others	1(3.125%)
Source of recommendation	
Relatives/Friends	
Non dermatologist doctors	3(9.37%)
Over the counter	2(6.25%)
Dermatologist	2(6.25%)
Others(Parlor,Internet)	4(12.5%)
Chief complaints	
Redness	23(28.1%)
Itching	24(75%)
Acne	15(46.8%)

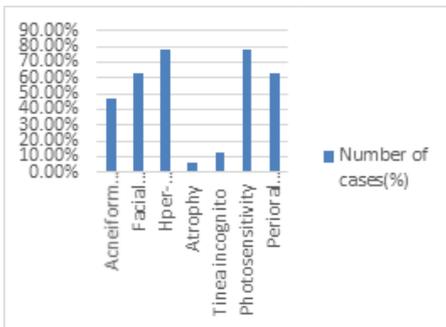
Burning	10(31.2%)
Swelling	12(37.5%)
Photosensitivity	21(65.6%)
Pigmentation	23(28.1%)
Striae	8(25%)

**Table-3**

Clinical findings	Number of patients(%)	Dermoscopy findings	Number of patients (%)
Erythema	26(81.2%)	Red diffuse areas	27(84.3%)
Telangiectasia	22(68.7%)	Vessels	24(75%)
Hypertrichosis	20(62.5%)	Hypertrichosis	26(81.2%)
Hyperpigmentation	25(78.1%)	Brownglobules	27(84.3%)
Atrophy	2(6.25%)	White structureless areas	4(12.5%)
White hair	20(62.5%)	White hair	23(71.8%)
Scaling	23(71.8)	Desquamation	24(75%)
Pustules	15(46.8%)	Pustules	15(46.8%)
Other findings			
Wrinkles	22(68.7%)	Demodex tails	24(75%)
Hypopigmentation	12(37.5%)	Break of pseudoreticular network	15(46.8%)
		Follicular plugging	12(37.5%)
		Comedones	15(46.8%)



**Figure-1:** Type of corticosteroid used by the patients



**Figure-2** Dermatological adverse effects



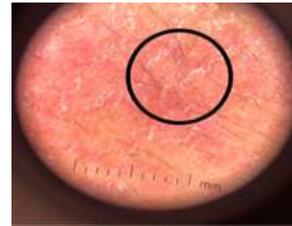
**Figure-3:** Clinical image & Dermoscopic image

History of application of topical corticosteroids for 1 year  
Dermoscopic features observed

Branched and polygonal vessels (black circle), Y-shaped vessels (black square), brown globules (black arrow)



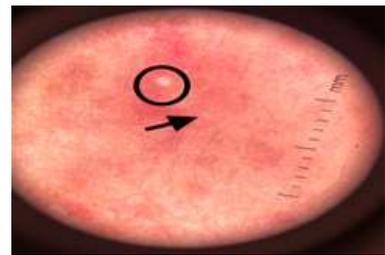
**Figure-4:** History of application of Topical corticosteroids for 2 years



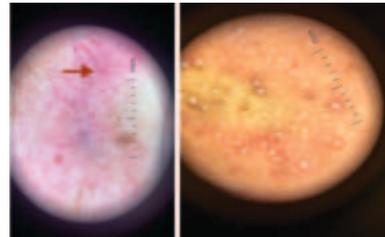
**Figure-5:** Dermoscopic features observed Diffuse desquamation with erythema and hypertrichosis



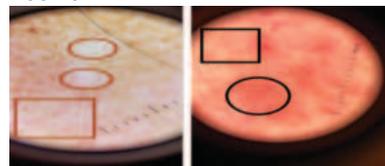
**Figure-6:** History of usage of Topical corticosteroids for 1 year



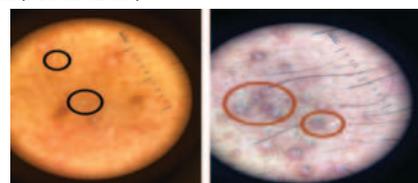
**Figure-7:** Dermoscopic features observed Pustule (black circle), Erythema (black arrow), hypertrichosis



**Figure-8:** Serpentine blood vessels & Comedones and follicular plugging



**Figure-9:** White structureless areas (red circle) branched blood vessels (red square) & White hair (black square) Erythema (black circle)



**Figure-10:** Demodex tails & Brown globules

**DISCUSSION**

According to our study Clinical features are -Erythema (81.2%), hyperpigmentation (78.1%), scaling (71.8%), Telangiectasia (68.7%), Hypertrichosis (62.5%), wrinkles (68.7%). Dermoscopic findings-Red diffuse areas (84.3%), Brown globules (84.3%), Hypertrichosis (81.2%), vessels (75%), Desquamation (75%) Indication of corticosteroids-Melasma (46.8%), Acne (15.6%), Tinea (15.6%)

Compared to Sethi et al findings Clinical - Erythema (81.1%), hyperpigmentation (80.3%) hypertrichosis (68.2%) Dermoscopy - Brown globules (96.2%), red diffuse areas (92.4%), vessels (87.1%), white structureless areas (86.4%), and hypertrichosis (80.3%) Comparable to Ravindran et al Indications for steroid abuse - dermatophytosis (40.2%), pigmentary abnormalities (30.1%), and acnes/cars (12.1%)

**CONCLUSION**

Thus, dermoscopy in Topical steroid damaged faces can help in a multitude of ways, from confirming the diagnosis to differentiating from other causes of red face and predicting the approximate duration of TCS abuse. Further, it can also help in predicting disease severity and prognosis. An additional advantage could be in counseling the patients and monitoring response to treatment. With effective treatment, a decrease in vessels, scaling, hypertrichosis, white hair and red diffuse areas is expected.