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To determine the prevalence of Topical Steroid Dependent Facies (TSDF) for valuable insights into the frequency and extent of TSDF among individuals affected by chronic TCS misuse.

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Keywords:

prevalence, Topical, Steroid & chronic.

Abstract:

Background: Androgenetic alopecia (AGA) significantly impacts quality of life, prompting the exploration of regenerative treatments like Platelet-Rich Plasma (PRP) and Growth Factor Concentrate (GFC).
Background & Methods: The aim of the study is to determine the prevalence of Topical Steroid Dependent Facies (TSDF) for valuable insights into the frequency and extent of TSDF among individuals affected by chronic TCS misuse.
Results: Itching (70%) and redness (69.3%) were the most prevalent symptoms, followed by burning sensations (42.96%) and pigmentation issues (40.7%). Less common were acne (23.3%) and various unspecified symptoms (7.4%).
Conclusion: Predominantly affecting young adults, particularly those aged 21-30 years and predominantly women, this condition manifests primarily through itching, redness, and burning sensations, often driven by acne treatment and concerns about melasma and fairness.
Study Design: Cross sectional, observational and analytical study.

Introduction

Topical steroids are commonly used medications for treating various dermatological conditions, including inflammatory skin disorders such as eczema, psoriasis, and dermatitis[1]. While they are effective in alleviating symptoms and managing these conditions, prolonged and indiscriminate use of topical steroids can lead to adverse effects, including skin thinning, telangiectasia, and steroid-induced facial changes known as topical steroid-dependent facies (TSDF) [2].

Topical Steroid Dependent Facies (TSDF) is a dermatological condition characterized by a range of cutaneous manifestations resulting from the chronic and improper use of topical corticosteroids (TCS) on the face. The condition primarily affects individuals who misuse or overuse TCS creams,

ointments, or solutions for prolonged periods, often without medical supervision[3].

TSDF typically presents with a variety of clinical features, which may include facial erythema (redness), telangiectasia, atrophy, acneiform eruptions, perioral dermatitis, hypertrichosis, and steroid-induced rosacea-like dermatitis[4]. These manifestations often develop gradually over time and can have a significant impact on the patient's physical appearance, self-esteem, and quality of life[5].

The pathogenesis of TSDF is multifactorial and not fully understood. Prolonged use of TCS on the face can disrupt the skin's barrier function, leading to increased susceptibility to infections, impaired wound healing, and skin thinning. Additionally, the anti-inflammatory properties of TCS can mask underlying skin conditions, delaying proper diagnosis and treatment. Psychological factors such as anxiety, depression, and body dysmorphic disorder may also contribute to the development and perpetuation of TSDF[6].

Material and Methods

Present study was conducted at Patients with clinical diagnosis/suspected of Topical steroid damaged face with age > 18 years, who was be attended People's Medical College, Bhanpur, Bhopal. Diagnosed with TSDF like symptoms: 270 Patients as cases including both male and female, with age >18 years, who has been diagnosed for topical steroid damaged face in the Department of Dermatology during the study period, and are willing to participate, was be included in the study.
Inclusion criteria:

1. Patients with clinical symptoms and signs suggestive of topical steroid dependent or damaged faces (redness, itching, acne, burning, swelling, photosensitivity, pigmentation, striae)

2. Patients who have used topical steroids for greater than 1 month.

3. Patients age > 18 years irrespective of gender.

4. Patients willing to participate in study.

5. Patients irrationally applied /applying topical steroids on face for variable indications

Exclusion criteria:
1. Patients unwilling to take part in the study
2. Patients with pre - existing comorbidities that resemble or may cause changes similar to topical steroids after - effects (eg. having PCOD, Cushing's syndrome, and thyroid disease)
3. Pregnant women
4. Patients with natural rosacea.
5. Patients on systemic steroids

Results

Table 1: *Age wise distribution of study group*

Age Group	No.	%
≤ 20 years	54	20.00%
21-30 years	104	38.52%
31-40 years	77	28.52%
41-50 years	31	11.48%
> 50 years	4	1.48%
Total	**270**	**100.0%**
Mean ± SD	**29.63±9.544**	

Table 2: *Chief Complaints wise distribution of study subjects*

Chief Complaints	Frequency	Percent
Burning	116	42.96%
Redness	187	69.3%
Itching	189	70.0%
Pigmentation	110	40.7%
Acne	63	23.3%
Others	20	7.4%

Table 3: *Frequency of Topical Steroids Duration of Symptoms wise distribution of study subjects*

Frequency of Topical Steroids	Frequency	Percent
1	197	73.0%
2	73	27.0%
Total	**270**	**100.0%**

Table 4: *Correlation of Frequency of topical steroids and Cutaenous Examination*

	Frequency of topical steroids		
	1.0	2.0	Total
Acneiform eruption, Hyperpigmentation, Rosacea, Atrophy, Hypertrichosis, Xerosis, Striae,	0	2	2
	0.0%	2.7%	0.7%
Acneiform eruption, Rosacea, Scaling, Wrinkles, Tinea Incognito	1	0	1
	0.5%	0.0%	0.4%
Erythema, Atrophy, Hypertrichosis,	8	2	10
	4.1%	2.7%	3.7%
Erythema, Atrophy, Xerosis, White hair, Wrinkles,	0	1	1
	0.0%	1.4%	0.4%
Erythema, Rosacea, Atrophy,	9	3	12
	4.6%	4.1%	4.4%
Erythema, Rosacea, Atrophy, Hypertrichosis,	2	0	2
	1.0%	0.0%	0.7%
Erythema, Rosacea, Hypertrichosis,	4	1	5
	2.0%	1.4%	1.9%
Erythema, Telengectasia,	3	1	4
	1.5%	1.4%	1.5%
Erythema, Telengectasia, Atrophy,	85	24	109
	43.1%	32.9%	40.4%
Erythema, Telengectasia, Atrophy, Hypertrichosis,	36	15	51
	18.3%	20.5%	18.9%
Erythema, Telengectasia, Hypertrichosis,	4	0	4
	2.0%	0.0%	1.5%
Erythema, Telengectasia, Rosacea,	1	1	2
	0.5%	1.4%	0.7%
Erythema, Telengectasia, Rosacea, Atrophy,	44	22	66
	22.3%	30.1%	24.4%
Erythema, Telengectasia, Rosacea, Atrophy, Hypertrichosis,	0	1	1
	0.0%	1.4%	0.4%
Total	197	73	270
	100.0%	100.0%	100.0%

$\chi 2=17.197$; $P=0.190$

Table 5: *Correlation of Frequency of topical steroids and Cutaenous Examination*

	Frequency of topical steroids		
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	0.0%	2.7%	0.7%
Acneiform eruption, Rosacea, Scaling, Wrinkles, Tinea Incognito	1	0	1
	0.5%	0.0%	0.4%
Erythema, Atrophy, Hypertrichosis,	8	2	10
	4.1%	2.7%	3.7%
Erythema, Atrophy, Xerosis, White hair, Wrinkles,	0	1	1
	0.0%	1.4%	0.4%
Erythema, Rosacea, Atrophy,	9	3	12
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Erythema, Telengectasia, Hypertrichosis,	4	0	4
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Erythema, Telengectasia, Rosacea, Atrophy,	44	22	66
	22.3%	30.1%	24.4%
Erythema, Telengectasia, Rosacea, Atrophy, Hypertrichosis,	0	1	1
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Total	197	73	270
	100.0%	100.0%	100.0%

$\chi 2=17.197$; $P=0.190$

Discussion

The age distribution of the participants upon analysis reveals that the majority of individuals affected by topical steroid dependency on the face fall within the age group of 21-30 years, comprising 38.52% (104 individuals) of the total sample size of 270. This is followed by the age group of 31-40 years, which accounts for 28.52% (77 individuals). The age group of 20 years or younger constitutes 20.00% (54 individuals), indicating a significant presence of younger participants in the study. Participants aged between

41-50 years make up 11.48% (31 individuals), while those older than 50 years represent a small fraction of 1.48% (4 individuals) of the sample[6].

The primary chief complaints among the study participants are diverse and multifaceted, reflecting the complexity of steroid-dependent facial skin conditions.

The most frequently reported symptom is itching, experienced by 189 participants, accounting for 70% of the sample population. This is closely followed by redness, which affects 187 individuals, representing 69.3% of the participants[7]. These high percentages underscore the significant prevalence of inflammatory symptoms in this cohort.Burning sensations are also notably common, reported by 116 participants, which constitutes 42.96% of the sample. Pigmentation issues, affecting 110 individuals or 40.7% of the sample, indicate a considerable concern regarding skin discoloration among those using topical steroids[8]. Acne is another prevalent complaint, observed in 63 participants, making up 23.3% of the study group, suggesting a frequent occurrence of steroid-induced acneiform eruptions.Additionally, a smaller segment of the population, 20 participants (7.4%), reported various other symptoms that were not specified in the major categories. This highlights the presence of additional, albeit less common, side effects associated with topical steroid use on the face.

On the contrary in 2024, Sanskriti Chauhan et al. [9] identified redness (62.66%) as the most common presenting complaint after topical corticosteroid abuse, followed by burning (52%), itching (44%), pigmentation (36%), and acne (38.66%). In comparison, Dey's(2014)[10] observations indicated acne (37.99%) as the most frequent adverse effect, followed by plethoric face and telangiectasia (18.99%) after topical corticosteroid misuse .

While ,Preethi Payal et al.(2023)[11] reported the adverse effects of steroid abuse, including hyperpigmentation (27%), acneiform eruptions (25%), facial erythema (18%), hypertrichosis (12%), hypopigmentation (9%), skin atrophy (5%), and perioral dermatitis (4%).

Conclusion

The majority of affected individuals were aged 21-30 years (38.52%), followed by 31-40 years (28.52%). Young adults under 20 years constituted 20.00%, highlighting a significant presence among younger age groups. Older adults above 50 years were least affected (1.48%). Itching (70%) and redness (69.3%) were the most prevalent symptoms, followed by burning sensations (42.96%) and pigmentation issues (40.7%). Less common were acne (23.3%) and various unspecified symptoms (7.4%). Predominantly affecting young adults, particularly those aged 21-30 years and predominantly women, this condition manifests primarily through itching, redness, and burning sensations, often driven by acne treatment and concerns about melasma and fairness.

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