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Clinico-Histopathological and Dermoscopic Profile of Topical Steroid Damaged Face

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INTRODUCTION

- Misuse, prolonged use, or unsupervised application of topical corticosteroids (TCS), especially on the face, leads to **Topical Steroid Damaged Face (TSDF).**
- Clinical features include: Erythema papules, pustules, telangiectasia, pigmentary alterations and cutaneous atrophy
- Histopathological data on TSDF is limited, resulting in gaps in understanding it's tissue-level changes.

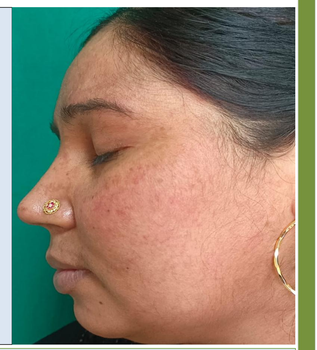
METHODS

- **Primary Objective:** To describe the clinical, dermoscopic, and histopathological profile of topical steroid damaged face.

- **Case Definition:** Facial redness, itching, burning, photosensitivity, erythematous papules, and/or atrophy history of topical steroid use for ≥ 1 month diagnosed by 2 dermatologists
- **Study Design:** Cross-sectional study
- **Study Duration:** 1 year
- Representative lesion examined using Dermlite DL200 (10× magnification, non-polarized mode) (n=30) and 3 mm punch biopsy from dermoscopically examined site. (n=23)

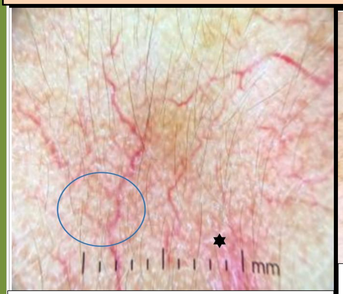
RESULTS (DEMOGRAPHICS)

- **Total population:** N=30, Females=90%
- **Mean Age:** 29.87±9.5 years (18-62 yr)
- **Literate/Illiterate:** 16 (53.3%) /14(46.7%)
- **Duration of Steroid Application:** <6 mths (36.7%), 6-12 mths (43.3%), >6 mths (20%)
- **Potency of Steroid applied:** Class I-III (40%), >Class III (60%)
- **Indication of steroid use:** Skin brightening (43.3%),Melasma (26.7%)
- **Source of recommendation:** Friends and Relatives (33.3%), Non dermatologist doctors (30%), Over the counter from chemist (20%), Others (10%)

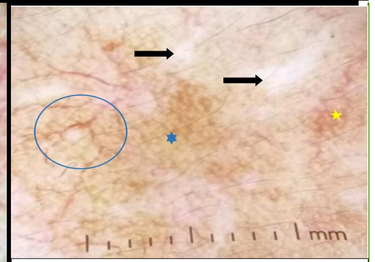


RESULTS

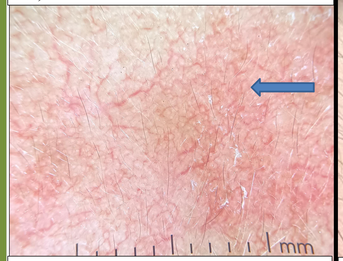
DERMOSCOPY RESULTS (N=30)



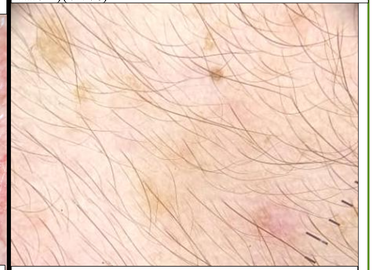
Arborising vessels forming network (blue circle)(60%) and erythema (66.7%) (black star)



White structureless areas(16.7%) (black arrow), arborising vessels forming network (blue circle) (66.7%), normal pigment network (blue arrow)(6.7%)

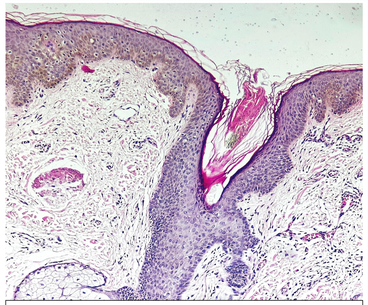


Background erythema (66.7%), Arborising vessels forming network (60%) (blue arrow) and linear vessels (6.7%)

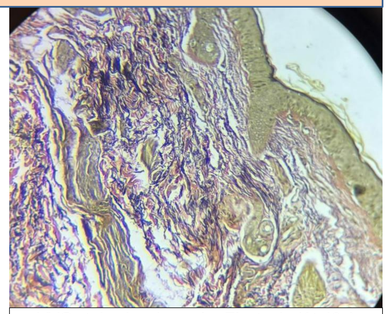


Background hypopigmentation (56.7%) and erythema (66.7%), hypertrichosis (26.7%), brown globules (13.3%),

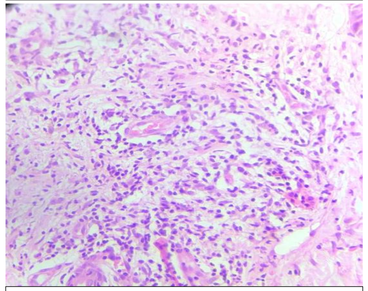
HISTOPATHOLOGY RESULTS (N=23)



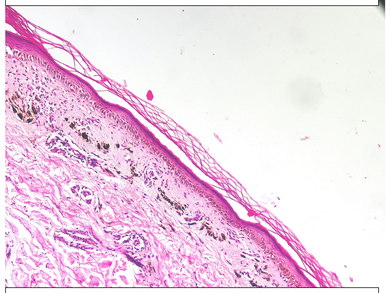
Follicular plugging (H & E staining at 40x)



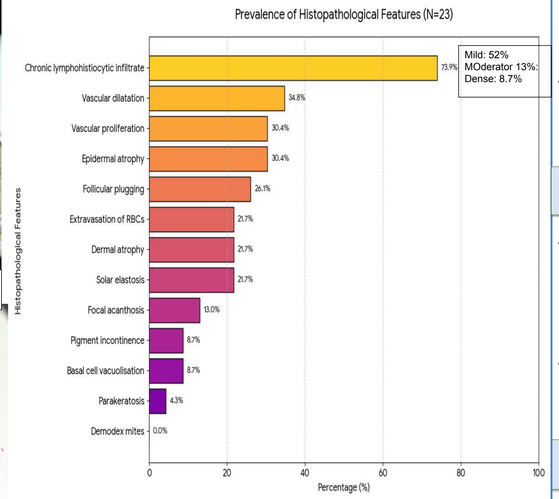
VVG stain showing solar Elastosis (At 40x)



Chronic lymphohistiocytic inflammatory infiltrate (H & E staining at 400x)



Epidermal atrophy (H&E stain at 40x magnification)



CONCLUSION

- Histopathology findings of TSDF show high prevalence of chronic lymphohistiocytic infiltrate (73.9%), followed by vascular dilatation (34.8%), vascular proliferation (30.4%) and epidermal atrophy (30.4%).
- Dermoscopically, erythema (66.7%) and arborising vessels forming a network (60%) were the most frequent features identified.

DISCUSSION

- The predominant histopathological finding in TSDF was a chronic inflammatory infiltrate seen in 73.95 patients which was similar to the previous reports of rosacea, supporting shared inflammatory mechanisms. Dermal atrophy was seen in only 21.7% patients.
- These observations re-emphasise that the underlying pathophysiology of TSDF is primarily inflammatory, rather than being solely attributable to dermal atrophy.

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