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RESEARCH ARTICLE

CLINICO-EPIDEMIOLOGICAL STUDY OF TOPICAL STEROID DAMAGED FACE IN A TERTIARY CARE HOSPITAL

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Topical Steroids, Misuse

Abstract

Objectives- The aim of the study was to determine the clinical features, extent, and dermographics of topical corticosteroid usage on the face in patients who were seen in the dermatology outpatient department.

Materials and Methods: Between August 2022 and August 2023, a questionnaire-based analysis of patients attending the dermatology outpatient department of a tertiary care hospital was conducted. The study was comprised of 200 subjects who applied topical steroid on their face for more than 6 weeks and they were enquired regarding their history. Clinical assessment, and lesion photography was also done.

Results: 200 patients with topical steroid damaged face were examined in the study. The most prevalent age range for topical steroid use was between 18 and 30 years which comprised 42% of total patients in the study. Out of 200 patients 149 were women [74.5%]. The average time between commencing the topical steroid regimen and the appearance of symptoms was six months. 74 [39.5%] used topical steroids to treat dermatophyte infections and the remaining subjects used them for miscellaneous reasons. In this study population, cream-based betamethasone valerate was the most frequently misused steroid. The most frequent adverse effect was hyperpigmentation (27%) followed by acneiform eruptions (25%) facial erythema (18%), hypertrichosis (12%), perioral dermatitis (4%) and skin atrophy (5%), hypopigmentation(9%).

Conclusion: "Topical steroid damaged face" is a dermatological concern. The public must be made aware of the possible danger of topical steroid abuse to stop its indiscriminate use.

Introduction:-

Sulzberger and Witten developed the first topical steroid in 1952.[6] Since then, a variety of steroid molecules with varying potencies have been created, enabling the treatment of inflammatory dermatoses.

Corticosteroids have anti-inflammatory, vasoconstrictive, antiproliferative and immunosuppressive effects.[1] Although useful, they have been misused by pharmaceutical companies as well as the public. The face is the most

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common site of abuse, leading to steroid dependence, referred to as the "topical steroid-damaged face."[2] Side effects of topical steroid therapy are noticed 6 weeks after administration and are usually reversible. It is abused by the public to lighten the skin along with whitening creams.

Long-term use of topical steroids on the face without medical supervision causes side effects such as rosacea, hyperpigmentation, hypertrichosis, acne-like rashes, perioral dermatitis. The increased incidence of topical steroid abuse also results in systemic and psychological side effects apart from the widely prevalent local effects. In this study conducted at a tertiary care hospital, assessment of clinical and epidemiological aspects of steroid abuse was done.

Methods:-

Study Design-

A questionnaire based cross sectional analysis was conducted on patients attending the outpatient department of a tertiary care hospital from August 2022 to August 2023. Prior approval of the institutional ethics committee was obtained. A total of 200 individuals were assessed by questionnaire on socio-dermographic information, details on type of steroid used, duration, indication, and adverse effects of chronic steroid use that is topical steroid abuse for more than 6 weeks. Prior written consent was obtained from the subjects to ensure their voluntary participation in the study.

Inclusion Criteria-

1. Age >18 years-<60 years
2. Application of medium to superpotent topical steroid.
3. Duration of steroid application - 6 weeks

Exclusion Criteria-

1. History of pre-existing comorbidities -Cushing's syndrome, polycystic ovaries, thyroid disorders
2. pregnancy
3. Patients on oral corticosteroids.

Study tools –

A questionnaire was prepared which was used to make assessment of the study and collect data to meet the objectives.

Results:-

42% [84 patients]belonged to the age group between 18-30 years[Figure1].Among the gender distribution, 74.5%[149] were females compared to males who were 25.5%[51][Figure2].The duration of steroid abuse ranged from <6 months [55.5%], 6months to 1 year [24%] and >1 year [20.5%][Figure3].

Most abused topical steroid was betamethasone valerate cream 0.1% [49%], followed by clobetasol ointment 0.05% [27.5%] and mometasone cream 0.1% [23.5%] [Figure4]. The common indication for which steroid was used was dermatophytic infections [39.5%] followed by papulosquamous disorders[27%], pigmentary abnormalities [18%] and as fairness cream [15.5%][Figure5] .The adverse effects seen with steroid abuse were hyperpigmentation [27%], acneiform eruptions [25%],facial erythema [18%], hypertrichosis [12%],hypopigmentation[9%], skin atrophy [5%] and perioral dermatitis [4%][Figure6].

Discussion:-

The facial skin is thinner than the skin of most other parts of the body as a result there is increased percutaneous absorption of drugs.[5] It is most liable to application of drugs and cosmetics. It is the most visible part of human body making it vulnerable to ill effects of beauty consciousness and comments. In this study, most of the subjects belonged to the age group of 18-30 years [42%]. Similar findings were reported by Skandashree BS et al. [1] Most subjects in the younger age group may be due to the younger population's consciousness of their appearance. Among the gender distribution, this study was dominated by women [74.5%] probably due to the social pressure of our colour-conscious society to look fair. Most of the women in the study abused topical steroids as fairness creams. This finding was also replicated by Skandashree BS et al. [1]

Duration of steroid abuse was <6months [55.5%], 6months -1 year [24%], >1 year [20.5%]. Similar findings were seen in the study conducted by Skandashree BS et al. [1]

In this study, the most abused steroids were betamethasone valerate cream 0.1% [49%], followed by clobetasol ointment 0.05% [27.5%] and mometasone cream 0.1% [23.5%]. The above-mentioned products are all Schedule H drugs. Schedule H drugs need to be sold strictly upon the prescription of a registered medical practitioner.[6] These drugs are commonly abused because they are readily available on the market without a prescription. The brands preferred by the subjects were sold under the following brand names: Panderm, Fourderm, Melacare, Betnovate-N.

Most common indication of steroid abuse was dermatophytic infections [39.5%] followed by papulosquamous disorders [27%], pigmentary abnormalities [18%] and as fairness creams [15.5%].

The most common side effects observed in this study were hyperpigmentation [27%], acneiform eruptions [25%], facial erythema [18%], hypertrichosis [12%], hypopigmentation [9%], skin atrophy [5%] and perioral dermatitis [4%]. In our study hyperpigmentation was the most common side effect which was seen in subjects using topical steroid for dermatophytic infections. Similar findings were observed in two different studies conducted by Ambika H et al. [2] and Skandashree BS et al. [1] In a case that used topical steroids for over a year, increased freckles were also observed. Similar findings were seen in a study by Mahdi AL Dhafiri et al. [7]

Conclusion:-

Abuse of topical steroids to treat facial dermatoses is on the rise, now more than ever before. The onus is on every health care professional to educate the public about the potential side effects of topical steroid abuse.

Limitations:

1.The sample size was limited due to the time-lapsed nature of the study
2.The active search for local steroid damaged face did not include all patients in the Outpatient department.

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Conflict of Interest-

None.

Ethical Approval-

The study was approved by the Institutional Ethics Committee

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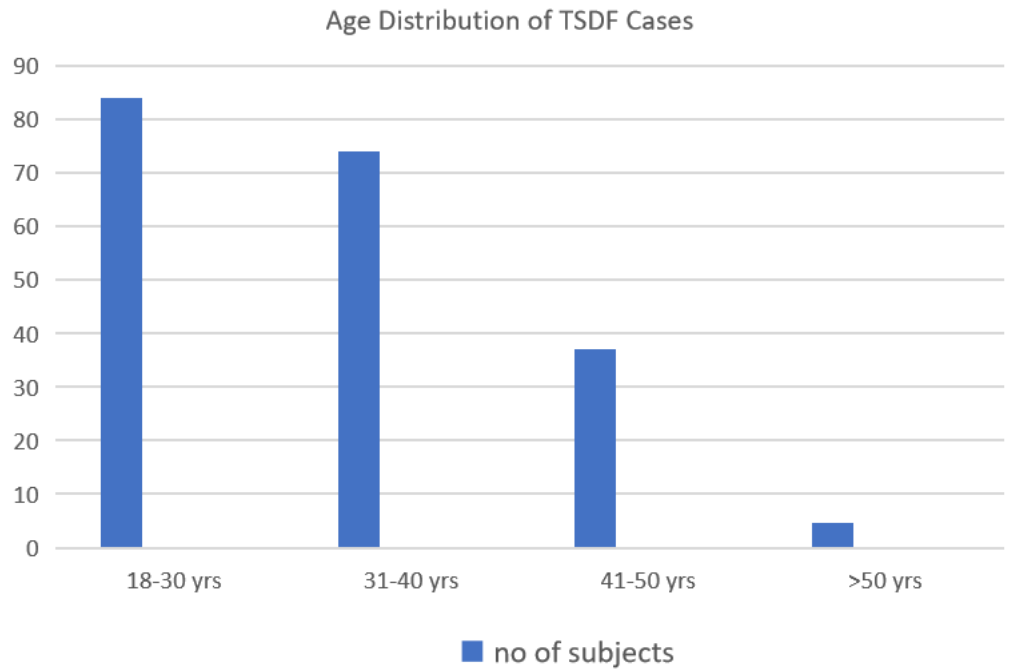

Figure 1:- Age Distribution of Topical Steroid Damaged Face.

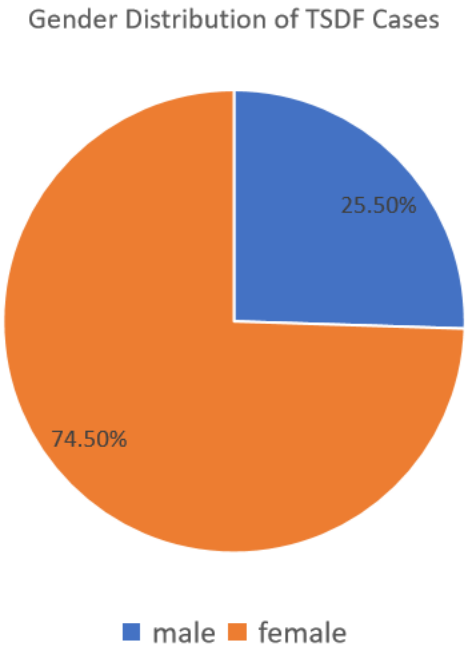

Figure 2:- Gender Distribution of topical steroid damaged face.

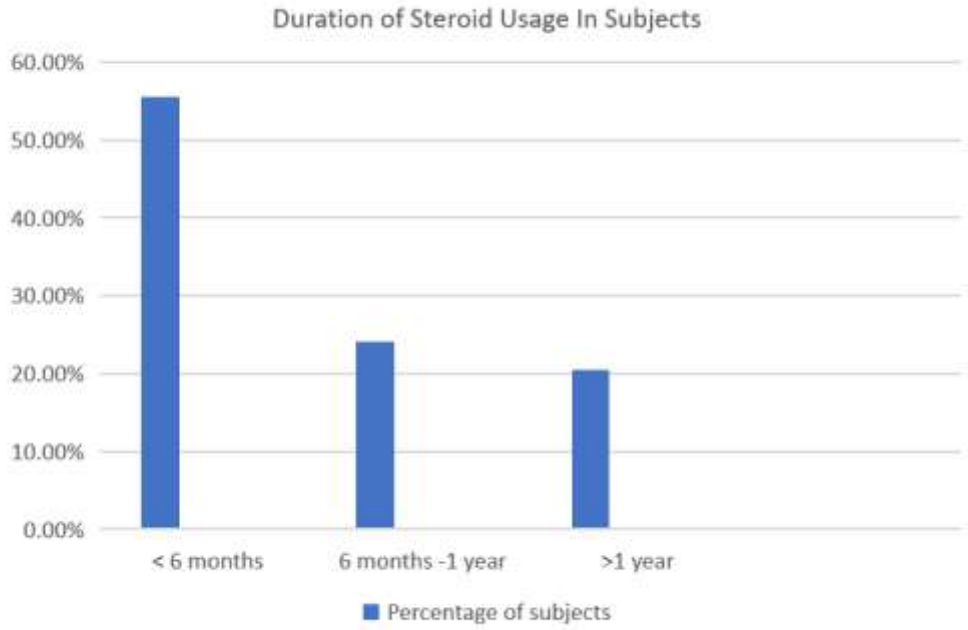

Figure 3:- Duration of steroid usage in study subjects.

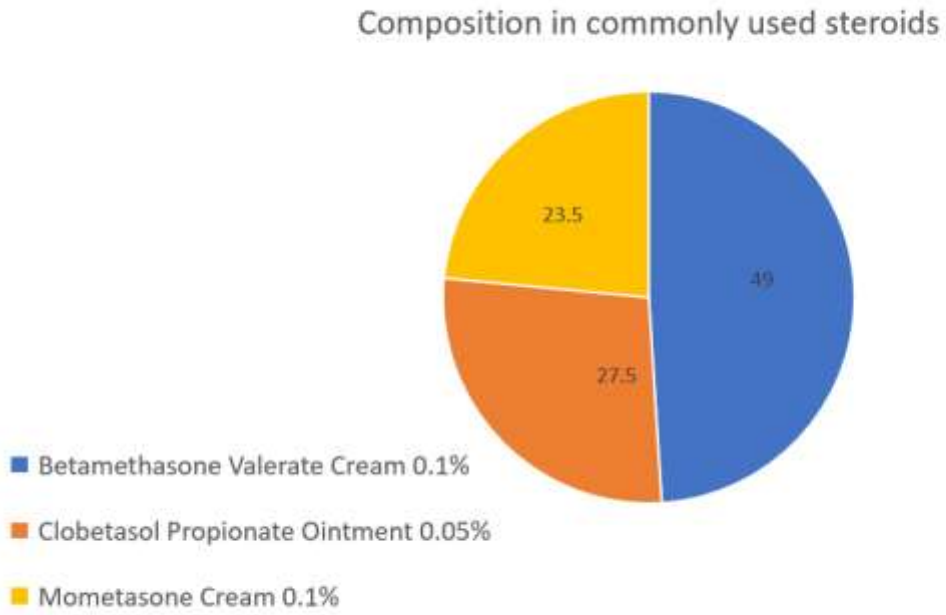

Figure 4:- Composition in commonly used steroids.

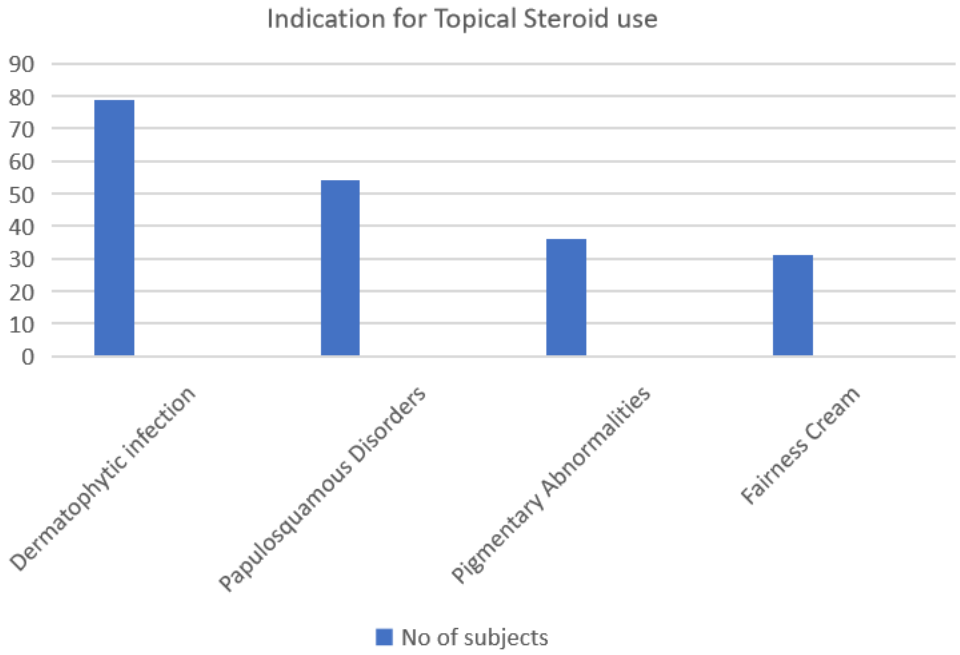

Figure 5:- Common indication for topical steroid use.

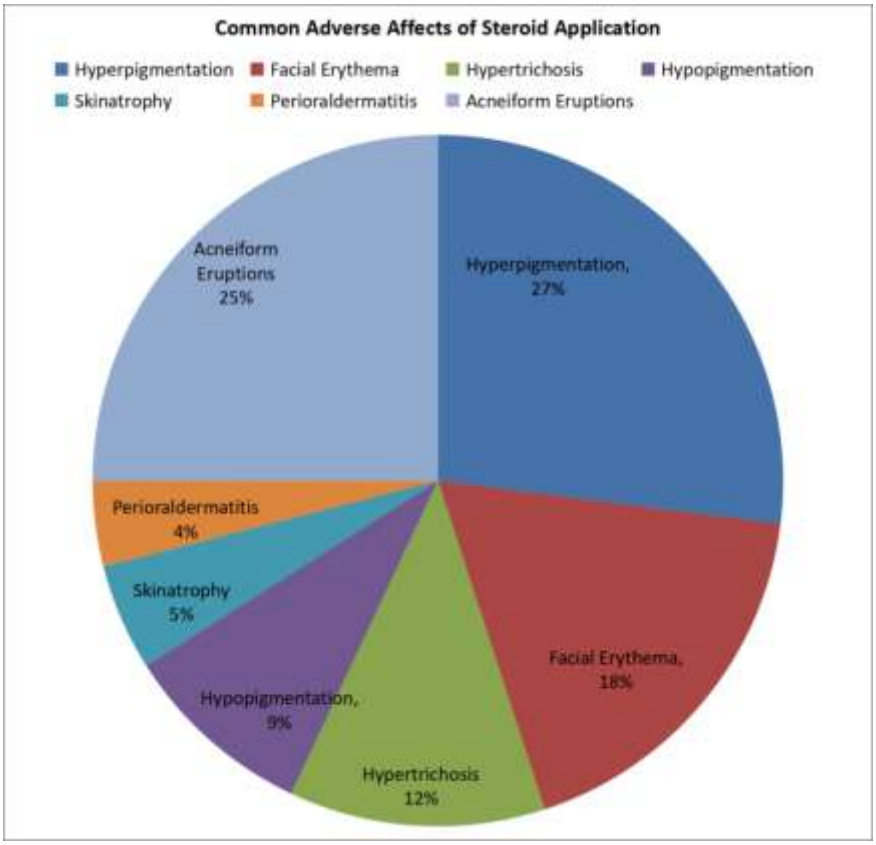

Figure 6:- Common adverse affects of topical steroid application.

Figure 7:- Facial erythema in a case of topical steroid damaged face.

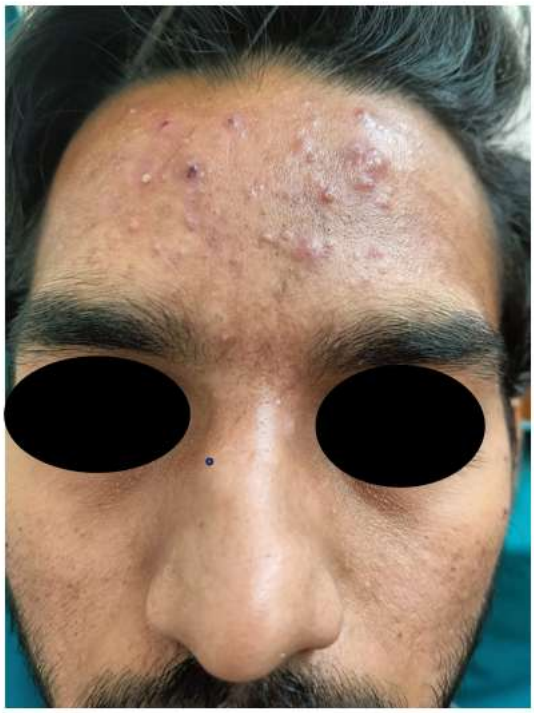

Figure 8:- Acne flaring in a case of topical steroid damaged face.

Figure 9:- Perioral dermatitis with hyperpigmentation in a case of topical steroid damaged face.

Figure 10:- Acneiform eruptions in a case of topical steroid damaged face.

Figure 11:- Increased freckles in a case of topical steroid damaged face

Figure 12:- Facial erythema with atrophy due to topical steroid application.

Figure13:- Hyperpigmentation in a case of topical steroid application.

Figure 14:- Hypopigmentation in a case of topical steroid application.

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