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Misuse of topical corticosteroids on facial skin. A study of 200 patients.

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Abstract

Background: Topical corticosteroids have become available as over the counter drugs and are widely misused for various conditions.

Objective: The aim of this study is to assess the clinical and epidemiological aspects of the unjustified use of topical corticosteroids for facial skin.

Methods: A total of 200 patients with facial dermatoses and topical corticosteroid misapplication daily over face for not less than 30 days were included in the study. This was a prospective study conducted in a tertiary care dermatology outpatient centre of the Jammu region. A detailed clinical history regarding topical corticosteroid use was taken and adverse effects analysed.

Results: A total of 166 patients were women and 34 were men. The predominant age was 31-40 years. A total of 170 patients (85%) were in the age group of 21-50 years. Duration of application was over 1 month up to 3 years, daily. Betamethasone or clobetasol ointments were used in 75 patients (37.5%) and momatasone was used in 15 patients (7.5%). Indication for using steroids were: general / cosmetic purposes (72 patients; 36.0%), acne (59; 29.5%), hyperpigmentation (41; 20.5%), tinea (6; 3%), undiagnosed dermatoses (28; 14.0%). The use of corticosteroids was attributed to the advice of pharmacists (69; 34.5%), friends and relatives (61; 30.5%), cosmetologists (22; 11.0%), non-dermatology physicians (30; 15.0%) and dermatologists (18; 9%). Adverse effects included acneiform lesions, telengiectasias, dyspigmentation, hypertrichosis, perioral dermatitis and tinea incognito. A total of 89 (44.5%) patients fulfilled the criteria of "topical steroid dependent face". These patients reported erythema, burning and itching on stopping the application of topical corticosteroids.

Conclusion: In most cases the use prolonged use of topical corticosteroids on facial skin was recommended by non-professional persons. The adverse events ranged from transient to permanent. The results of this study underline the indispensable role of dermatology specialists in diagnosing and treating cutaneous disorders. (*J Dermatol Case Rep*. 2017; 11(1): 5-8)

Keywords:

abuse, adverse effects, contraindications, glucocorticoids, face, steroids, TSDF

Introduction

Since the introduction of the first topical corticosteroid (TC's) in 1952, multiple agents have come up in the armoury ranging low potency to ultrahigh potency topical corticosteroids.[1] Topical steroids hold a high place and are an important tool for the dermatologist. They are highly efficacious and have become the main therapeutic tool among dermatologists. Their clinical effects are due to anti inflammatory, anti proliferative, immunosuppressive effects.[2] Meanwhile the misuse of topical steroids has also increased indiscriminately specially over the face which further has increased various adverse effects.[3] Various side effects encountered in day to day practice by dermatologists due to inadvertent use of topical steroids are acne, rosacea, or hypertrichosis. A new entity known as "topical steroid dependent

face (TSDF)" has recently been coined to encompass the various symptoms aggravated such as erythema or burning sensation on attempted cessation of topical steroid application.[4]

These adverse events, including TSDF, have been further aggravated by inappropriate prescriptions and availability as over the counter drugs. Indian market is flooded with 18 different steroid molecules in various strengths and combinations. In India annual sales figure of TC's was 209 million U.S. dollars.[4] Also inadequate policies regarding sale of medications by pharmacists further make the scenario more dismal and disturbing. The present study was undertaken at a tertiary centre of Jammu region to assess the magnitude of the problem, the demography of the abuse of steroids and various clinical adverse effects related to their misuse.

Material and methods

A total of 200 patients were taken up for study attending the dermatology outpatient department of Government Medical College of Jammu region for a period of six months from January 2016 to June 2016 after taking written informed consent. Ethical clearance was taken up for the study. Inclusion criteria included all patients with history of application of topical corticosteroids over face for a period of >/= 1 month. Exclusion criteria included: 1) patients not giving consent, 2) patients with preexisting morbidity like polycystic ovary syndrome, Cushing syndrome, thyroid disorders, 3) patients with dermatitis papulosis nigra, melanocytic nevi, xanthelasmas, 4) past history of preexisting atopic dermatitis, seborrheic dermatitis and contact dermatitis prior to the initiation of steroids. Details regarding use of steroids, duration and indication, source of steroid, type and potency were recorded. Also a detailed examination regarding signs and symptoms after steroid application were analysed. Reason of continued use was also noted and patients were educated about the adverse effects.

Results

Out of total 200 patients, 166 were females and 34 were males. Maximum patients were in the age group of 31-40 years (65 patients) followed by 53 patients in 41-50 years and 52 patients in 21-30 years. A total of 170 patients (85%) were in the age group of 21-50 years as shown in Table 1. Duration of application was >1 month in all the patients with maximum duration was up to 3 years in one patient. Topical corticosteroids of various potencies, either alone or in combination with other agents, were used in all the patients. Betamethasone and clobetasol ointments were used in 75 patients (37.5%) and momatasone was used in 15 patients (7.5%). 66 patients (33%) had used Kligman's formula and 54 patients (27%) used steroids as a part of combination agents. Indication for using steroids ranged from acne, pigmentation, as a general purpose cream to various undiagnosed dermatosis. Various indications are listed in Table 2. A total of 72 patients (36%) used topical TC's as a fairness or general purpose cream. 59 patients(29.5%) used TC's for acne and TC's were used for melasma or pigmentation in 41 patients (20.5%); 6 patients (3%) used it for tinea. Some patients used corticosteroids for more than one indication.

Table 1. Showing no. of patients using topical corticosteroids in various age groups.

Age group	No. of patients
11-20	18
21-30	52
31-40	65
41-50	53
51-60	10
>60	2

Table 2. Distribution of patients and indication for its use.

Reason for application of steroids	No. of patients
General purpose cream/Fairness cream	72
Acne	59
Melasma/Pigmentation	41
Tinea	6
Undiagnosed dermatoses	28

Table 3. Showing no. of patients with various side effects.

Adverse effects after using corticosteroids over face	No. of patients
Acneiform lesions	46
Erythema	40
Telengiectasias	34
Dyspigmentation	28
Hypertrichosis	42
Perioral dermatitis	17
Tinea incognito	11
Photosensitivity and burning sensation	13

A total of 69 patients attributed use of TC's on the advice of chemists and pharmacists whereas 61 patients used TC's on the advice of friends and relatives. Beauticians recommended the use in 22 patients and physicians other than dermatologists recommended the use in 30 patients. Only in 18 patients was the use of TC's recommended by dermatologists. Multiple adverse effects were seen and are listed in Table 3. They ranged from acne including papulopustular and comedonal lesions to hypertrichosis, erythema etc. Few patients had more than one side effects. There were 24 patients who were initially using mid potent steroids but gradually there was decrease in response and they had to switch to higher potent steroids. 111 patients didn't attribute the adverse effects to TC's whereas 89 patients reported increase in symptoms like erythema, burning sensation, itching on stopping thus representing the newly coined term of "topical steroid dependent face (TSDF)".

Discussion

The discovery of glucocorticosteroids opened new doors for discovery of similar molecules and revolutionised the treatment of various dermatosis. Since then their misuse and abuse has been rampant adding to the burden of steroid related adverse effects.[3,4]

Recently more emphasis has been focussed on the misuse of TC's and their side effects with illegal supply by pharmacists and creating awareness among public. In our study we also reported widespread abuse of corticosteroids over face which was similar to two other studies from China.[5] Numbers patients in our study who used potent to mid potent steroids and various other studies are in accordance with these results. Another study showed that fairness and skin lighteneting was the main indication of steroid abuse which was also the most common reason in our study.[1] Common of adverse effects seen in our study after applying topical corticosteroids and acne or acneiform eruptions was the most common side effects, similar to other authors' data.[7,8] A study showed rosacea to be more common than acne.[1] In our study 89 patients suffered from TSDF, a term coined by Sarasswat A., Lahiri K. *et al.*[9] Various other adverse effects, such as erythema, telengiectasias, dyspigmentation and perioral dermatitis was also seen. In our study 24 patients had to switch over to more potent steroids as there was decrease in response to previously used steroids. This phenomenon is due to tachphylaxis.[10] In our study the main burden of responsibility to prescribe steroids was on paramedical personnels and family and friends in concordance with a study from Iraq. This reflects the unethical distribution of topical steroids and gap in our policies.

Conclusion

Thus it is evident from our study that the misuse of TC's is showing and explosive upsurge in our society and increased awareness needs to be spread among people. Moreover stringent policies are required regarding their distribution and prescription.

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