Abuse of Topical Corticosteroids and its Consequences: A Prospective Study

Shafia Nissar Kakroo¹, Mirza Aumir Beg²

ABSTRACT

Background: Misuse of topical corticosteroids is a widespread among young people in India, especially women. The inadvertent use of topical corticosteroids for various common dermatological conditions is associated with significant adverse effects.

Aim: To assess the steroid abuse for various common dermatological conditions and its adverse effects.

Materials & Methods: Sixty patients who attended OPD dermatology were taken in to study. A detailed clinical history with regard to age, gender, education status, duration and frequency of use of topical steroids, type and formulation of the drug (lotion, cream, ointment), cause for using the drug and the source of the drug (by dermatologist, doctor-physician/Ayurvedic/homeopathic, over the counter (OTC) were taken.

Results: Majority of patients were between the age group of 15-30 years and females were in predominance. The common indications were facial pigmentation, dermatophytosis and acne. The source of drug were mostly from pharmacist, friends and family members. Most commonly used steroid were betamethasone valerate, clobetasol propionate and mometasone furoate. The common side effects observed were acneiform eruptions, linea incognito, and erythema with telangiectasia, cutaneous atrophy and striae.

Conclusion: Topical steroids should be used cautiously and judiciously. Awareness should be given regarding the indications and its consequences. Avoidance of self-medication by over the counter purchase should be stressed upon. While treating children extreme care should be given regarding the selection of potency of topical steroids.

Key words: Abuse, misuse, steroid acne, topical corticosteroid, cutaneous atrophy

INTRODUCTION

The main stay of treatment in various types of noninfectious inflammatory dermatological conditions have been topical steroids. In 1952² they were first used successfully by Sulzberger and Witten. They have anti-inflammatory, vasoconstriction, anti-proliferative and immunosuppressive effects.[3,4] They are classified according to their potency. The adverse effect depends on potency, duration, quantity, method and site of application. In spite of being a common problem, only few studies have investigated the misuse of topical corticosteroid products in India. [5]

METHODS

A prospective clinical study was conducted in department of dermatology Hamdard Institute of Medical sciences and Research, New Delhi from August 2017 to January 2018. In total 60 patients with history of steroid abuse were taken into study. A detailed clinical history with regard to age, gender, education status, duration and frequency of use of topical steroids, type and formulation of the drug (lotion, cream, ointment), cause for using the drug and the source of the drug

Access this article online

Website: www.iabcr.org
DOI: 10.21276/iabcr.2018.4.1.50

How to cite this article: Kakroo SN, Beg MA. Abuse of Topical Corticosteroids and its Consequences: A Prospective Study. Int Arch BioMed Clin Res. 2018;4(1):182-185.

Source of Support: Nil, Conflict of Interest: None
by dermatologist, doctor- physician/Ayurvedic/homeopathic, over the counter (OTC) were taken.

RESULTS
Total of 60 patients aged from 1 to 45 years (Table 1). 49 patients (81.6%) being females whilst 11 (18.3%) being males. Majority of patients, 35 (58.33%) were aged between 15 – 30 years. Our study patients used topical steroids for a period of minimum of 2 weeks to a maximum of 3 months. Patients used it from once, twice to thrice daily. Topical steroids used were clobetasol propionate, mometasone furoate, Betamethasone valerate, Beclomethasone dipropionate. The most commonly used topical steroid was betamethasone valerate by 31.6% (19) patients, followed by clobetasol propionate, mometasone furoate & beclomethasone dipropionate by 28.3% (17) patients ,28.3% (17), 26.6% (16) 13.3% (8) respectively (Table 2). The most common reason for which topical steroid was used was for skin lightening (33.33%) followed by dermatophytosis (25%), Acne (21.6%) scabies (11.66%) and other reasons like suntan, skin dryness, pediculosis, and (8.33%) (Table 2. The detailed history about the source from where it was purchased was taken. Out of 60 patients 25 (41.6%) patients purchased from the pharmacist shop, 16 (26.6%) patients from friends/relatives, 17 (28.3%) patients had prescription from doctors (physician, homeopathic, ayurvedic doctors) and 2 (3.3%) patients had prescription from dermatologists (Table 2). The side effects that was noticed after the use of steroid were acneiform eruptions (Figure 1) in 40 % patients, skin atrophy (Figure 2) 20 % patients, tinea incognito (Figure 3) 16.6%, erythema and telangiectasia (figure 4) 11.6 %, dyspigmentation (Figure 5) 8.33% and others (figure 6, 7) 3.33 % (Table 3). It was observed that majority of patients were ignorant about side effects, dosage and mode of application. Patients used the steroid in combination with antibiotics, antifungal and depigmenting agents.
DISCUSSION

Steroids abuse is the most common problem in India encountered by the dermatologists nowadays. The steroids are easily available over the counter and are available at cheap rates. Topical corticosteroids are used as skin lighteners due to their potent bleaching action, and also their anti-inflammatory activity, which can reduce the risk of dermatitis when used along with other irritating skin lightening agents.[6,7] Skin lightening was the main reason for the use of these drugs which may be the main reason for the female predominance in our study. People of various age groups, socio-economic status, employment and marital status were also found to be using topical corticosteroids as self-medication for conditions where their use is actually not indicated. Misuse of steroid was most commonly seen in teenage and young adults. The adverse effects are directly related to the potency of topical corticosteroids and have become more prevalent with the introduction of high potency topical corticosteroids. These include effects on the epidermis and the dermis in addition to those resulting from their systemic absorption.[7-12]

The most common products used were hydroquinone and corticosteroids as seen in the study done by Del Giudice P, Pinier and et al.[12] A study conducted by Al-Dhalimi MA et al.[13] showed topical steroid abusers were in the 10-19 years age group but our study showed that most patients were in the 15-30 years age group.

Skin lightening was the main reason for use of this drug. Topical steroids have emerged in recent years as major skin lighteners owing to their potent bleaching power, and perhaps also their anti-inflammatory activity, which can reduce the risk for dermatitis.[11]

The term tinea incognito has been used to describe a dermatophyte infection modified by corticosteroid treatment. Delay in diagnosing this common dermatological skin conditions due to misuse of potent topical steroid, in which lesions are often modified morphologically.[14] Number of adverse effects related to steroids misuse such as perioral dermatitis, tinea incognito, impetigo incognito and infantile gluteal granuloma have been detected[15-17] apart from other complications such as cellulitis, bacterial and fungal infections, acne, skin atrophy and pigmentation disorders.

“Topical steroid-dependent face” recently a new term coined by Saraswat et al[18] for the condition where, after prolonged use of topical corticosteroid on the face, there is severe rebound erythema, burning and scaling on any attempted cessation of the application.

The common topical corticosteroids used was the mid potent steroid betamethasone valerate which is the cheapest and freely available one in our country[19] and in our study the same steroid betamethasone valerate was most commonly used.

In our study, the main responsibility for the misuse of topical corticosteroids could be attributed to pharmacists, paramedical personnel, the patient, friends or family and also to general physicians and even some dermatologists because they did not emphasize the adverse effects and proper dosing of topical corticosteroids to the patients.

CONCLUSION

Topical steroids should be used cautiously and judiciously. Awareness should be given regarding the indications and its consequences. Avoidance of self-medication by over the counter purchase should be stressed upon. While treating children extreme care should be given regarding the selection of potency of topical steroids.

Shortcomings in this study: Number of patients were less. Patients felt difficult to understand what corticosteroid was the use of these drugs which may be the main reason for the female predominance in our study. People of various age groups, socio-economic status, employment and marital status were also found to be using topical corticosteroids as self-medication for conditions where their use is actually not indicated. Misuse of steroid was most commonly seen in teenage and young adults. The adverse effects are directly related to the potency of topical corticosteroids and have become more prevalent with the introduction of high potency topical corticosteroids. These include effects on the epidermis and the dermis in addition to those resulting from their systemic absorption.[7-12]

The most common products used were hydroquinone and corticosteroids as seen in the study done by Del Giudice P, Pinier and et al.[12] A study conducted by Al-Dhalimi MA et al.[13] showed topical steroid abusers were in the 10-19 years age group but our study showed that most patients were in the 15-30 years age group.

Skin lightening was the main reason for use of this drug. Topical steroids have emerged in recent years as major skin lighteners owing to their potent bleaching power, and perhaps also their anti-inflammatory activity, which can reduce the risk for dermatitis.[11]

The term tinea incognito has been used to describe a dermatophyte infection modified by corticosteroid treatment. Delay in diagnosing this common dermatological skin conditions due to misuse of potent topical steroid, in which lesions are often modified morphologically.[14] Number of adverse effects related to steroids misuse such as perioral dermatitis, tinea incognito, impetigo incognito and infantile gluteal granuloma have been detected[15-17] apart from other complications such as cellulitis, bacterial and fungal infections, acne, skin atrophy and pigmentation disorders.

“Topical steroid-dependent face” recently a new term coined by Saraswat et al[18] for the condition where, after prolonged use of topical corticosteroid on the face, there is severe rebound erythema, burning and scaling on any attempted cessation of the application.

The common topical corticosteroids used was the mid potent steroid betamethasone valerate which is the cheapest and freely available one in our country[19] and in our study the same steroid betamethasone valerate was most commonly used.

In our study, the main responsibility for the misuse of topical corticosteroids could be attributed to pharmacists, paramedical personnel, the patient, friends or family and also to general physicians and even some dermatologists because they did not emphasize the adverse effects and proper dosing of topical corticosteroids to the patients.

REFERENCES


