



MISUSE OF TOPICAL STEROIDS BY PATIENTS SEEKING DERMATOLOGY OPD

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Abstract

Background: In dermatological offices nowadays, topical corticosteroids are the most often recommended drugs. Their anti-inflammatory, vasoconstrictive, anti-proliferative, and immunosuppressive characteristics mediate the clinical consequences. They are extremely effective medications used to treat a variety of inflammatory and autoimmune dermatological diseases. Off-label use of TC appears to be a prevalent clinical practice in India, according to information on recognized dermatological indications of TC published on the Central Drugs Standard Control Organization (CDSCO) website (although indications are not specified for all the TC molecules).

Material and method: A tertiary care hospital's Department of Dermatology outpatient clinic hosted a cross-sectional observational questionnaire-based study. A total of 170 individuals of all ages and genders who had used topical corticosteroids inappropriately (that is, for circumstances for which they are not advised) for specific skin issues and had displayed at least one adverse effect from these medications were recruited in a sequential manner. These comprised at least one of the following symptoms: plethoric face and telangiectasia, infantile gluteal granuloma, pyoderma, stretch marks, hyper/hypopigmentation, tinea incognito, facial acne, facial hypertrichosis, and cutaneous atrophy.

Results: Most common adverse effect observed in present study was tinea incognito (34.71%) followed by aggravation of the lesion (21.76%). Other adverse effects observed were post-inflammatory hypo/ hyper pigmentation (12.35%), plethoria/ telangiectasia (11.18%), atrophy/ striae (7.64%), facial acne (6.47%), photosensitivity (3.53%), and hypertrichosis (2.35%).

Conclusion: The issue is made worse by the ease with which a patient can obtain these drugs, even without a valid prescription. In our study, it was discovered that younger age groups, particularly females, abused steroids more frequently. Steroid misuse is thus a widespread issue in India due to the ease with which topical steroids may be obtained, the difficulty patients have in seeing dermatologists, and a lack of awareness about non-adverse doctors. The results of our study's data show that this issue is already serious, and immediate action should be done to address it by making steroids a prescription-only drug rather than an over-the-counter drug.

Key Words: Topical Steroid, Corticosteroid, Acne, CDSCO and Adverse effect

Introduction

Since the invention of "compound F" or hydrocortisone in 1952, topical corticosteroids have significantly advanced the field of dermatology and are now the go-to therapy for a variety of inflammatory and non-infectious diseases.¹

In dermatological offices nowadays, topical corticosteroids are the most often recommended drugs. Their anti-inflammatory, vasoconstrictive, anti-proliferative, and immunosuppressive characteristics mediate the clinical consequences. They are extremely effective medications used to treat a variety of

inflammatory and autoimmune dermatological diseases.²

The entire yearly sales of TCs in India were 14 billion rupees in 2013, or almost 82% of all dermatological products sold in the nation. Dermatologists now routinely prescribe TC, and concerns have been expressed about its abuse for purposes other than those listed on the label.³

Off-label use of TC appears to be a prevalent clinical practice in India, according to information on recognized dermatological indications of TC published on the Central Drugs Standard Control Organization (CDSCO) website (although indications are not specified for all the TC molecules).⁴ The more significant issue is its inappropriate usage by unregistered practitioners or on the advice of pharmacists at chemist shops as a fairness cream and as symptomatic treatment for a variety of dermatological problems such as acne, primary bacterial and fungal infections, misdiagnosed skin rash, and fairness lotion.⁵

The majority of these drugs are available over-the-counter, or patients can readily obtain these steroid drugs from a nearby pharmacist using a single prescription over and over again. This causes unpleasant effects to occur more frequently and frequently results in medication dependence. India is a dearth of dermatologists who are trained to prescribe these medications properly, which exacerbates the issue.

This issue affects established nations like the United States of America as well as developing nations like Africa and India. Therefore,

immediate action is advised to stop this problem at its source. Thus, the goal of the current study was to evaluate the prevalence and negative effects of topical steroid usage among patients visiting the dermatology outpatient clinic of a tertiary care hospital.

MATERIAL AND METHODS

A cross-sectional observational questionnaire-based study was conducted in an outpatient clinic in the Department of Dermatology in a tertiary care hospital. A total of 170 patients of any age and of both sexes are recruited consecutively who had used topical corticosteroids incorrectly (i.e. for conditions for which steroids are not indicated) for certain skin problems and presented with ≥ 1 of the side-effects of these drugs. These included the appearance of ≥ 1 of the following signs: facial acne, facial hypertrichosis, cutaneous atrophy, stretch marks, hyper/hypopigmentation, tinea incognito, plethoric face and telangiectasia, infantile gluteal granuloma and pyoderma. Also, those patients coming for other dermatological problems but showing obvious signs of topical steroids misuse. A questionnaire eliciting history of topical steroid use, duration of application and adverse effects is administered to all eligible patients.

Statistical Analysis

The quantitative data was represented as their mean \pm SD. Categorical and nominal data was expressed in percentage. All analysis was carried out by using SPSS software version 21.

RESULTS:

Table 1: Gender wise distribution of the patients

| Gender | Number | Percentage |
|--------|--------|------------|
| Male | 76 | 44.70 |
| Female | 94 | 65.30 |
| Total | 170 | 100 |

Out of a total of 170 patients, 94 (65.30%) were females and 76 (44.70%) were males.

Table 2: Distribution of Study subjects as per steroid used

| Steroid Used | Number | Percentage |
|------------------------|--------|------------|
| Combination cream | 84 | 49.41 |
| Betamethasone Valerate | 23 | 13.53 |
| Clobetasol Propionate | 20 | 11.76 |
| Fluticasone Propionate | 13 | 7.64 |
| Halobetasol Propionate | 18 | 10.59 |
| Hydrocortisone Acetate | 12 | 7.05 |
| Total | 170 | 100 |

Out of 170 patients, 84 subjects received a combination cream containing steroids (49.41%), while other major steroids prescribed as single ingredient were betamethasone valerate (13.53%), clobetasol propionate (11.76%), halobetasol propionate (10.59%) and fluticasone propionate (7.64%).

Table 3: Distribution of subjects as per duration of steroid used

| Duration (Months) | Number | Percentage |
|-------------------|--------|------------|
| <3 | 85 | 50 |
| 3-6 | 37 | 21.76 |
| 6-9 | 26 | 15.29 |
| 9-12 | 14 | 8.24 |
| >12 | 08 | 4.71 |
| Total | 170 | 100 |

Duration of steroid use was less than 3 months in 50% cases while it was 3-6 months, 6-9 months and 9-12 months in 21.76%, 15.29% and 8.24% respectively. Duration of use of over one year was given by 4.71% cases.

Table 4: Distribution of subjects as per Cutaneous side effects

| Side effects | Number | Percentage |
|--------------------------------|--------|------------|
| Tinea Incognito | 59 | 34.71 |
| Aggravation of Lesion | 37 | 21.76 |
| Post inflammatory pigmentation | 21 | 12.35 |
| Plethora / Telenglectasia | 19 | 11.18 |
| Atrophy striae | 13 | 7.64 |
| Facial acne | 11 | 6.47 |
| Photosensitivity | 06 | 3.53 |
| Hypertrichosis | 04 | 2.35 |

Most common adverse effect observed in present study was tinea incognito (34.71%) followed by aggravation of the lesion (21.76%). Other adverse effects observed were post-inflammatory hypo/ hyper pigmentation (12.35%), plethora/ telangiectasia (11.18%), atrophy/ striae (7.64%), facial acne (6.47%), photosensitivity (3.53%), and hypertrichosis (2.35%).

Discussion

Topical corticosteroids were first introduced for use in 1951 and have now become the most

commonly used drugs by dermatologists. Their effect in suppressing inflammatory dermatoses makes them an indispensable therapeutic tool. However, they are considered as a double-edged sword drug i.e. invaluable but need careful handling by the provider and the recipient for safe and effective use.⁶ Since their invention, uncontrolled use (misuse) of steroid medications has led to many different adverse reactions. Multiple pathways including rebound vasodilatation and pro-inflammatory cytokine

release have been proposed as the mechanism for such adverse reactions.⁷

Our results clearly show that misuse of topical corticosteroids is common in our country. This is evident by number of patients who visited our department with side-effects of these drugs. Even then, adverse effects and safety of topical corticosteroids are neglected in the medical literature. The root problem is the easy availability these topical steroid medications to the patients from a local pharmacist on a single prescription and that too repeatedly. This leads to occurrence of side effects and often dependence on these medications. In our country it is a major problem because patients are able to procure a drug without a valid prescription from a medical practitioner. The problem is worsened when these steroid containing creams are freely advertised on television, thus it is not only a medical but also a social problem.

Kakroo NS et al.⁸ in their study observed that source of steroids were mostly from pharmacist, friends and family members. Manzoor S et al.⁹ in a similar study also observed that chemists were the most common source of prescribing steroids. Chauhan A et al.¹⁰ in their study aimed to find out the most common steroid being used and the reason for its use. Study concluded that main responsibility for the misuse of topical corticosteroids could be attributed to chemists, the patient himself/herself, friends and family members. Mahar S et al.¹¹ in their study observed that friends and family (33.2%) were found to be the most influencing factors for misuse of topical steroids. A study done on topical steroid abuse on face by Saraswat et al.¹² showed that a total of 59.3% of the patients had used topical corticosteroids simply on recommendation by friends or family and without a valid medical prescription.

Meena S et al.¹³ in their study reported that main reason for using topical steroids was fungal infection (52.43%). Kakroo NS et al.⁸ in a similar study reported that common indications for steroid misuse were facial pigmentation, dermatophytosis and acne. Manchanda K et al.¹⁴ in their study observed

that 85% of the patients were applying topical steroids for medical conditions, with acne being the most common indication, and the rest were applying as a general face cream. Mahar S et al.¹¹ found that fungal infection (38%) was the most common reason of abuse followed by facial acne (29%) and lightening of skin colour (8.4%).

CONCLUSION:

Our investigation revealed that topical steroid misuse is widespread in our nation. Significant information about this issue is absent, though. One of the main causes of its overuse is the medication's quick symptomatic alleviation. The issue is made worse by the ease with which a patient can obtain these drugs, even without a valid prescription. In our study, it was discovered that younger age groups, particularly females, abused steroids more frequently. Steroid abuse is thus a widespread issue in India due to the ease with which topical steroids may be obtained, the difficulty patients have in accessing dermatologists, and the ignorance of non-dermatologists. The results of our study's data show that this issue is already serious, and immediate action should be done to address it by making steroids a prescription-only drug rather than an over-the-counter drug. Additionally, it is a multiphase issue that requires collaboration from several community sectors to be resolved. The most crucial actions that should be made to lessen this issue are probably public education through specific media programs and the creation of continuing medical education programs for medical and paramedical staff.

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