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INCIDENCE OF TINEA INCOGNITO IN PATIENTS WITH DERMATOPHYTOSIS

Dermatology

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ABSTRACT

BACKGROUND: Dermatophytosis is a common superficial fungal infection of the skin.In India there is casual and indiscriminate use of over-the-counter topical medications.Topical steroids are the most widely used agents and inappropriate use of these agents lead to side effects. **AIM:** To assess the magnitude of topical corticosteroids use in dermatophytosis by studying the source of medication, demographic variables, and side effects. **MATERIALS AND METHODS:** It is a cross sectional, questionnaire based study carried out in the Department of Dermatology, Venereology and Leprosy,Saveetha medical college. One hundred patients confirmed to have Tinea incognito were questioned about the duration of illness, the medications used and the side effects observed. An informed consent will be obtained from all the patients and recorded on specialized designed proforma. **RESULTS:** The study population consisted of 74 males and 26 females.Tinea corporis is the most common pattern observed(53%).Clobetasol was the common drug misused and 75% of the study population complained of adverse effects. **CONCLUSION:** Topical corticosteroids are constantly being used for indications where they shouldn't be used.The increasing threat of OTC(Over the counter) use is evident from this study .Thus better control policies and awareness of side effects is the need of the hour.

KEYWORDS

Tinea Incognito, Over The Counter Use, Drug Abuse, Topical Corticosteroids

INTRODUCTION

Keratinophilic organisms that have the ability to invade skin of living host, hair and nails is termed as dermatophytoses.Tinea corporis ,tinea cruris and Tinea pedis are some of the common infections caused by dermatophytes.Tinea incognito refers to fungal skin infection, when the clinical presentation has been altered by the inappropriate usage of topical or systemic corticosteroids due to misdiagnosis or given for some coexisting dermatosis. Indiscriminate use of topical corticosteroids suppresses the local cell-mediated immunity leading to parasitism of villus hair [1][2]. This results in inadequate clearance and increased survival of the dermatophytes which necessitate prolonged duration of treatment or higher dosage of the conventional anti fungal agents than that are otherwise required.The most common site for tinea incognito are face, groin and back of the hand.

Commonly used topical corticosteroids combinations for skin rashes usually contain a anti fungal agent, antibiotic, steroid, dithranol, salicyclic acid and recently even topical calcineurin inhibitor induced tinea incognito has been reported [3][4]. They are being frequently used by the patients who do not wish to visit the doctors and indulge in self medication due to easy availability from the pharmacy. The anti inflammatory and vasoconstrictive properties of these agents gives symptomatic relief to the patients and serve as a important cause for persistence of fungal infections.

Despite the extensive use in India, comprehensive studies on the usage and abuse of topical corticosteroids in dermatophytosis are lacking .The aim of this study is to assess the growing threat of OTC(over the counter) abuse and its consequences.

MATERIALS AND METHOD

It is a cross-sectional, questionnaire-based study conducted in the Department of Dermatology, Venereology and Leprosy,Saveetha medical college and hospital from feb 2019 to April 2019 . After obtaining informed consent, 100 consecutive mycologically proven patients with dermatophytosis of all ages and both sexes were recruited for the study.

Patients who applied topical corticosteroids for various conditions and overused topical corticosteroids beyond the time limit prescribed by a physician or applied potent steroid on the face, genitalia, axilla, or groin and presented with one or more side effects of these agents as the complaint were included in this study. Patients with infections other than dermatophytosis and those unwilling for participation were excluded.

An informed consent was taken from all the patients and a standard validated questionnaire eliciting the age of the patient, clinical presentation, duration of illness, source of prescription, OTC topical medication used and their adverse effects were noted from all the eligible patients.

RESULT

The study population consisted of 74(74%) males and 26(26%) females[TABLE 1].The age of the population ranges from 11 years to 70 years. Most number of patients with tinea incognito belonged to age group of 21 years to 30 years(52%) [TABLE 2].The duration of illness ranges from 1 week to 1 year.65% of cases had the diseases ranging from 1 – 2 months duration,17% of cases ranging from 3-5 months and 11% of cases ranging from 6 months to 1 year [TABLE 3].

The most common clinical presentation was Tineacorporis (53%) followed by Tinea cruris (30%),Tinea pedis(9%),Tinea manuum(4%) and Tinea faciei(4%)[TABLE 4].

The sources of medications were friends, relatives, pharmacist, nurse, Ayurveda, homeopathic doctors and general practitioners.Out of 100 patients in the study population 87(87%) of them used over the counter topical corticosteroids and 13(13%) patients used the anti-fungal agents prescribed by dermatologists.

Most number of patients(45%) were encouraged by pharmacists to use over the counter topical corticosteroids.Pharmacists have been a major source of prescription in earlier studies also.Hence, educating pharmacists and general practitioners about the adverse effects of topical corticosteroids use is crucial.13% of patients consulted dermatologist and took treatment[TABLE 5].

TABLE 1: SEX DISTRIBUTION

MALES	FEMALES
74(74%)	26(26%)

TABLE 2: AGE DISTRIBUTION

0-10 YEARS	0
11-20 YEARS	13(13%)
21-30 YEARS	52(52%)
31-40 YEARS	16(16%)
41-50 YEARS	13(13%)
51-60 YEARS	4(4%)
61-70 YEARS	1(1%)
MORE THAN 70 YEARS	1%

TABLE 3: DURATION OF ILLNESS

<1 WEEK	NIL
1 WEEK- 1 MONTH	7(7%)
1 MONTH-2 MONTHS	65(65%)

3 MONTHS- 5 MONTHS	17(17%)
6 MONTHS- 1 YEAR	11(11%)

TABLE 4: CLINICAL PRESENTATION

TINEA CORPORIS	53(53%)
TINEA CRURIS	30(30%)
TINEA PEDIS	9(9%)
TINEA MANUUM	4(4%)
TINEA FACIEI	4(4%)

TABLE 5: SOURCE OF MEDICATION

FRIENDS	15(15%)
RELATIVES	15(15%)
PHARMACIST	45(45%)
AYURVEDA	2(2%)
GENERAL PRACTITIONER	10(10%)
DERMATOLOGIST	13(13%)

Steroid and fungal combinations are the most commonly used agents. The anti-fungal agents used are clotrimoxazole, miconazole ,terbinafine, ketoconazole.The steroid agents commonly used are clobetasolpropionate, beclamethasonedipropionate,fluticasone propionate and beclamethasonevalerate.

Steroid based preparations were most popular among our study group and majority (87%) of patients used steroid based preparation.Among the steroid based preparation clobetasolpropionate(45%) was commonly used followed by betamethasonedipropionate (26.4%), fluticasone propionate (16%) and betamethasonevalerate (11.49%). 13% of the patients used anti-fungal drugs prescribed by dermatologists [TABLE 6].

TABLE 6: CONTENT OF THE MEDICATION

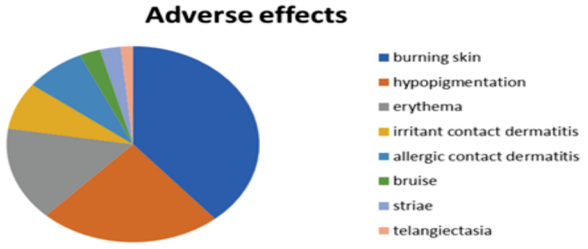
CLOBETASOL PROPIONATE	40(45.97%)
BETAMETHASONE DIPROPIONATE	23(26.45%)
BETAMETHASONE VALERATE	10(11.49%)
FLUTICASONE PROPIONATE	14(16.09%)
CLOTRIMOXAZOLE	6(46.15%)
MICONAZOLE	2(15.38%)
TERBINAFINE	3(23.07%)
KETACONAZOLE	2(15.40%)

Brand names of commonly misused steroid-based preparations were Quadriderm, Fourderm, Betnovate, Panderm, and Candid B, which could be procured OTC without prescription.

About 65 (75%)patients using topical corticosteroid preparations reported adverse effects.22(25%) patients out of 87 patients who used topical steroids did not develop adverse effects. The most common adverse effect encountered was burning sensation of skin(38.4%) followed by hypo pigmentation(23.07%),erythema(15.38%),allergic contact dermatitis(7.69%),irritant contact dermatitis(7.69%), bruise(2.65%),striae(2.65%) and Telangiectasia (1.53%) [TABLE 7].

TABLE 7: ADVERSE EFFECTS OF COMBINATION CREAMS

BURNING SENSATION OF SKIN	25(38.46%)
HYPOPIGMENTATION	15(23.07%)
ERYTHEMA	10(15.38%)
IRRITANT CONTACT DERMATITIS	5(7.69%)
ALLERGIC CONTACT DERMATITIS	5(7.69%)
BRUISE	2(3.07%)
STRIAE	2(3.07%)
TELANGIECTASIA	1(1.53%)



DISCUSSION

Dermatophytosis is the most widely prevalent superficial mycosis with myriad of atypical presentations due to a complex interplay of agent factors (parasitism of villus hair, true resistance), social factors (hesitation to seek medical advice due to involvement of groins, gluteal region, or the inframammary regions) and host factors (changing clothing habits, untreated sanctuary sites, ping pong effect within the family, lack of adherence to standard therapy and casual health-seeking attitude).[5][6]

Topical corticosteroids is one of the most widely used agent in dermatology practise. Immunosuppresion induced by corticosteroids leads to suppression of inflammation with difficulty in diagnosis leading to wrong treatment. Clinically the scaling is lost, raised margins are diminished, lesion becomes less visible. With chronic use of topical corticosteroids local side effects becomes more obvious. Adverse effects of injudicious use of topical corticosteroids (TCs) may range from hypo pigmentation, striae, atrophy, telangiectasia, acneiform eruptions and hypertrichosis to more serious systemic side effects due to hypothalamic–pituitary–adrenal axis suppression. After stopping the treatment, lesions relapses with varying severity. Potent topical corticosteroids lead to profound changes in the character of the lesions when compared to systemic corticosteroids.

Neither the pharmacist nor the patient are aware of these hazards resulting in an alarming rise in the number of patients approaching dermatologists with these side effects which may sometimes be irreversible. There is lack of comprehensive studies assessing various aspects of OTC topical medication abuse in dermatophytosis. In this study, 87% of patients used commercially available OTC medications and clobetasol-based preparations were predominant unlike other previous Indian studies wherein betamethasone was the most frequently used OTC preparation. Burning sensation was the most common adverse effect experienced by the patients, and clinically, atrophy, striae, eczematous changes, hypo pigmentation, and widespread bizarre lesions were most frequently encountered.

Hence, educating general practitioners and pharmacists about the adverse effects of irrational use of OTC medications is crucial.

CONCLUSION

This study showed that the abuse of topical corticosteroids particularly the super potent and potent, is rampant among general population, irrespective of the literacy status. People use topical corticosteroids for various wrong indications such as infection, infestation, acne and also as fairness Creams.

Continuous education of clinicians regarding potential harmful effects of topical steroids and reporting the adverse effects to regulatory health agencies, along with ensuring strict regulation of TCs sale OTC, mass awareness, and warning people not to fall prey to tall and spurious claims by advertising agencies are some of the important strategies to overcome the epidemic of steroid abuse.

Health education is necessary to create public awareness about irrational drug abuse and its adverse effects. Combined efforts from the drug manufacturer, doctors, and pharmacists supported by stringent drug control policies are of paramount importance in overcoming this hurdle.

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