



## CLINICAL PROFILE OF STEROID MIS USE IN TINEA: A CROSS SECTIONAL STUDY

### Dermatology

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### ABSTRACT

**INTRODUCTION:** Steroid modified tinea is a dermatophytic infection with a modified clinical presentation due to previous treatment with topical or systemic steroids.<sup>5</sup> With use of combination creams containing potent steroids the clinical pattern of tinea lesions are obscuring and presenting as eczematous variants.

**OBJECTIVE OF STUDY:** To evaluate the various clinical patterns and phenomenographic analysis of steroid modified tinea.

**METHODS:** A Cross sectional observational study comprising 60 clinically suspected cases of steroid modified tinea evaluated with the help of predesigned proforma, complete clinical examination & Phenomenographic analysis is used in which patient own words or utterances are recorded.

**RESULTS:** Out of 60 patients, 60% were males and 40% were females. Majority were from age group 25-30 years (33%). The commonest used steroid formulation was a combination clobetasol, gentamicin, clotrimazole, clioquinol and tolnaftate. Patients developed atypical presentations like Pseudo imbricata (22 %) pustular lesions (10%) and eczematous lesions associated with erythematous striae in 10% who had used steroid creams for more than 12 weeks. Most common phrase uttered by the patient was "I had skin lesions with itching, went to pharmacy and asked a cream for which pharmacist told to use combination cream".

**CONCLUSION:** Our study reinforces high prevalence in usage of different combination steroid creams for dermatophytic infections and their over the Counter availability. Phenomenographic analysis in the form of patient own quotes helps us to get insight of usage of combination creams.

### KEYWORDS

Steroid modified tinea, phenomenographic analysis, dermatophytic infection, recalcitrant dermatophytoses, Steroid combination creams.

### INTRODUCTION:

Steroid modified tinea is a dermatophytic infection with a clinical presentation that is modified due to previous treatment with topical or systemic steroids.<sup>4</sup> Classical tinea lesions are annular with an erythematous scaly advancing edge with central clearing, with use of the combination creams containing potent steroids the clinical pattern of tinea lesions is obscuring and presenting as a eczematous variants. The cutaneous inflammatory response that the skin mounts to resist and limit the fungal infection is majorly suppressed by topical as well as systemic steroid. Concomitantly, there is local suppression of T cell mediated immune response to the dermatophyte. This temporary suppression of the host induced inflammation leads to ineffective elimination of the dermatophyte, and the process becomes chronic and also wide spread.<sup>2</sup> It is a common observation that severity of changes in the clinical pattern correlates with the duration of abuse of topical steroids. We are seeing an increasing number of atypical clinical presentations of tinea due to topical steroid abuse which are not responding to standard protocols of therapy. There is increase in prevalence of new cases, many presenting with recurrent, chronic dermatophytosis with varied clinical presentations.

### AIM OF THE STUDY:

To evaluate the various clinical manifestations, risk factors and phenomenographic analysis of steroid modified tinea.

### NEED FOR THE STUDY:

Due to the atypical morphology of the lesions because of the application of topical steroids diagnosis of fungal infections may be delayed in patients. Prevalence of dermatophytosis is high in rural area. Lack of awareness and inadequate availability of quality care in rural areas could be the reason behind the higher steroid use among the rural patients. Hence it is important to study the topical steroid abuse in the community.

### MATERIALS & METHODS:

A hospital-based study was conducted on patients attending dermatology outpatient department in a tertiary care hospital. Patients were recruited from OPD and study was conducted from August 2019-February 2020.

### STUDY DESIGN:

Cross sectional observational study

**SAMPLE SIZE:** Study comprised of 60 clinically suspected cases of steroid modified tinea evaluated with the help of predesigned proforma that includes complete history regarding the type of combination steroid creams, their formulations, duration and frequency of application and complete clinical examination was done to evaluate the various clinical patterns and adverse effects of steroids.

### INCLUSION CRITERIA:

Patients of all age group irrespective of sex who used topical steroids for more than 6 weeks attending dermatology outpatient department

### EXCLUSION CRITERIA:

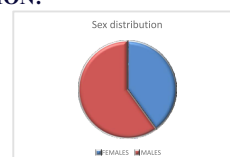
Patients who are on antifungal therapy, Defaulters, Patients who are immunosuppressed, uncontrolled diabetes, acquired immune deficiency syndrome, pregnancy and lactating, malignancy, on steroid treatment for other diseases.

### DATA COLLECTION:

After obtaining the consent from the patient, information was taken as per the proforma, enclosed, recorded on the clinical forms. Complete history regarding the onset, progression, family and treatment history is included in the proforma. Phenomenographic analysis is used in this study to evaluate the steroid abuse in the patients. Phenomenographic analysis is a qualitative study in which the patient own words or utterances are recorded regarding the understanding of that particular phenomenon. In this study we used this analysis to know the information regarding the advice to use steroid creams for the tinea infection.

### RESULTS:

#### SEX DISTRIBUTION:



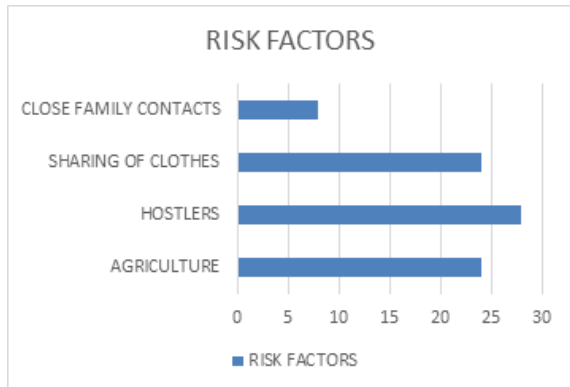
Out of 60 patients enrolled in the study, 24(40%) were females and 36 (60%) were males

**DISTRIBUTION OF AGE:**

Age group	No of patients
15-25 years	8
25-35 years	20
35-45 years	8
45-55 years	12
>55 years	12

Majority of the patients(33%) were from 25-35 years age

**PREDISPOSING FACTORS:**



Majority of the patients in our study were hostlers followed by agriculture and history of sharing of clothes.

**DIFFERENT COMBINATIONS USED BY PATIENTS:**

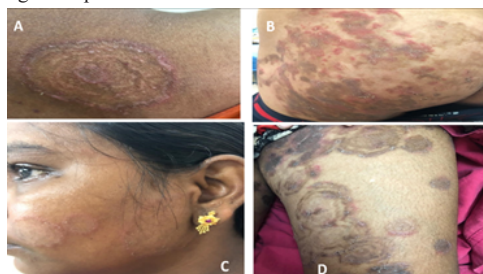
- [CLOBETASOL DIPROPIONATE, MICONAZOLE, GENTAMYCIN]
- [BETAMETHASONE DIPROPIONATE AND SALICYCLIC ACID].
- [CLOBETASOL GENTAMICIN IODOCHLORHYDROXY QUINOLONE TOLNAFTATE CLOTRIMAZOLE]
- [KETOCONAZOLE BECLOMETHASONE DIPROPIONATE]
- [ITRACONAZOLE, OFLOXACIN, ORNIDAZOLE, CLOBETASOL]
- [ CLOBETASOL PROPIONATE, MICONAZOLE NITRATE & ZINC SULPHATE]

**CLINICAL PATTERNS POST STEROID USAGE:**

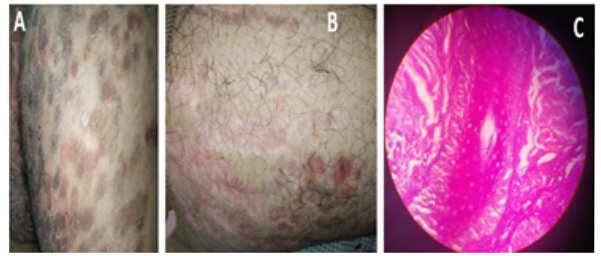
Majority of the patients were found to be having Tinea corporis (40%) followed by tinea cruris (15%) and tinea faciei(3%).10% Patients who had used steroid creams for more than 12 weeks developed atypical presentations in a disseminated manner with eczematous lesions associated with erythematous striae. Pseudo imbricata (multiple rings) and pustular lesions were found in 22 and 10% patients respectively.

**PHENOMENOGRAPHIC ANALYSIS:**

**21 Patients (36%)** had skin lesions with itching and went to pharmacy and was prescribed a tube which was referred by the pharmacist as **only medicine for skin problem**. **8 Patients (13%)** sought the advice of relatives who had similar complaints and used the combination creams suggested by them. **19 patients (32%)** hailing from rural background were prescribed the combination cream by **LOCAL RMPs**. **12 patients (19%)** predominantly with complaints of itching went to general practitioner and steroid creams were advised.



**Figure 1.a) Pseudo Imbricata Lesions B) Eczematous Lesions C) Tinea Faciae D) Multiple Ring Like Morphology**



**Figure 2. A) Atrophy With Collarette Scales B) Striae C) Dermal Invasion Of Fungal Elements (histopathology Image-pas Stain)**



**Figure 3. Different Steroid Combination Creams Used By The Patients In Our Study**

**DISCUSSION:**

There was increase in the incidence of recalcitrant dermatophytosis due to misuse of potent topical steroids mainly by the non-medical people like pharmacists. “The commonest formulation we found in this study was combination of five medicines i.e.clobetasol, gentamicin, clotrimazole, clioquinol and tolnaftate followed by clobetasol and miconazole combination. The duration of dermatophytic infection was higher in people who used this combination creams and the lesions are non-scaly, diffused and sometimes associated with pustules. In our study Clobetasol combination creams caused more pronounced side effects like striae ,atrophy of skin and telangiectasias in a shorter duration i.e. less than 6 weeks when compared to the Mometasone combination creams which took more than 8 weeks to produce significant side effects. Pseudoimbricata type lesions are more commonly observed with momatesone combination creams in our study<sup>7</sup>.Phenomenography the similar analysis used by the som jithendra et al ,helps us to understand social and environment factors involved in the steroid misuse.<sup>10</sup>

**CONCLUSION:**

Our study reinforces high prevalence in usage of different combination steroid creams for dermatophytic infections and over the counter availability of these combination drugs. Phenomenographic analysis in the form of patient own quotes helps us to get insight of usage of combination creams.<sup>3</sup> Patients, in whom steroid abuse was noted, had dermatophytosis at multiple sites which could mean that use of steroids can also worsen the disease course in patients with superficial fungal infections. Its high time for the enforcement of stringent laws against the production of this combination steroid creams. Even though the study sample is small for the generalization of findings, this study gave opportunity to counsel the patients about the steroid misuse and to take forward the IADVL theme of “fight the topical steroid misuse”.

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