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ROLE OF TOPICAL TACROLIMUS IN COMBINATION WITH TOCOPHEROL ACETATE BASED LOTION IN THE TREATMENT OF TOPICAL STEROID DEPENDENT FACE.

Dermatology

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ABSTRACT

Introduction: Topical steroid dependent face (TSDF) is a phenomenon which has been characterized by a plethora of symptoms caused by usually misuse or overuse of topical corticosteroid of any potency on the face over an unspecified or prolonged period of time.
Aim and objective: The aim of this study was to compare the efficacy of topical tacrolimus in combination with tocopherol acetate based lotion to topical tacrolimus alone therapy in the treatment of the patients with topical steroid dependent face.
Materials and methods: This prospective study was done over 50 patients with topical steroid dependent face who fulfilled the inclusion criteria with an age between 16-60 years .The patients were evaluated at the outpatient department of Dermatology, Leprosy and Venerology Government Medical College Srinagar from December 2020 to November 2021.
Results: The selected 50 patients with topical steroid dependent face were distributed in two groups A and B, with 25 patients in each group. The patients in group A were given only topical tacrolimus and patients in group B were given topical tacrolimus in combination with tocopherol acetate based lotion. After follow up of six to eight weeks in the patients of group B better results were seen as compared to group A.
Conclusions: Topical tacrolimus in combination with tocopherol acetate based lotion have satisfying efficacy and safety in the treatment of topical steroid dependent face.

KEYWORDS

Face, misuse, TSDF, topical tacrolimus, tocopherol acetate.

INTRODUCTION

Topical steroid dependent face (TSDF) is a syndrome first described by Lahiri and Coondo in 2008. This is a disease caused by unsupervised application and misuse of topical corticosteroids for prolonged period of time. This misuse has a serious effect on skin and the quality of life of these patients is compromised.

Topical corticosteroid was first introduced by Sulzberger and Witten in 1952 as compound F (hydrocortisone) [1]. Introduction of topical corticosteroids have made the task of dermatologists easier in treating the patients with inflammatory dermatological disorders. Topical corticosteroids provide rapid symptomatic relief in almost all inflammatory dermatological disorders. That is why it is one of the most widely prescribed topical drugs .Since the time of its introduction a new therapeutic era in dermatology has been emerged [2].

Meanwhile topical corticosteroids misuse also appeared as a common problem adding a new complication which has been reported by variety of investigators [3].However the drug has been misused by the prescribers, who are not always doctors and by the users, resulting in severe cutaneous damage. The face is the most severely affected site of such misuse which has been labeled as "Topical steroid dependent face (TSDF). [4]

The general treatment method is to inform patients of the basic knowledge about misuse of topical corticosteroid drugs. At present topical tacrolimus (a calcineurin inhibitor) in combination with tocopherol acetate (Vit.E) based lotion is widely used in the treatment of the patients with topical steroid dependent face.

The aim of this article is to compare the efficacy of topical tacrolimus in combination with tocopherol acetate based lotion to topical tacrolimus only therapy in the treatment of the patients with topical steroid dependent face.

Tacrolimus, as a non-hormone immunosuppressant, can block the activation of T lymphocytes, effectively inhibit the transcription of granulocyte-macrophage colony-stimulating factor (GM-CSF), interleukin-3 and interleukin-4 genes, and then inhibit the release of inflammatory mediators, significantly improve the skin barrier function, thus improving the skin symptoms[5,6].

Tocopherol acetate is an important fat-soluble and has been in use for more than 50 years in dermatology. It protects the skin from solar radiations because of its photo-protective properties.

Definition

TSDF is defined as the semi-permanent or permanent damage to the skin of the face caused by unsupervised or prolonged use of topical corticosteroid. This unsupervised and prolonged use of topical corticosteroids produce many adverse effects particularly on face such as steroid addiction,[7] steroid rosacea, dermatitis rosaceaformis steroidica,[8] red face syndrome.[9]

MATERIALS AND METHODS

This prospective study was conducted at Dermatology, Leprosy and Venerology Department, Govt. Medical College Srinagar. In this study 50 patients were included with topical steroid dependent face, with history of long term use of topical corticosteroids. The selected patients were evaluated from outpatient department. The selected patients fulfilled the inclusion criteria and were between the age of 16-60 years.

The purpose, procedure, risks and benefits of the study were explained to the patients and a formal written consent was taken. Patients were following regularly and final assessment was done at 6 weeks to eight weeks.

INCLUSION CRITERIA

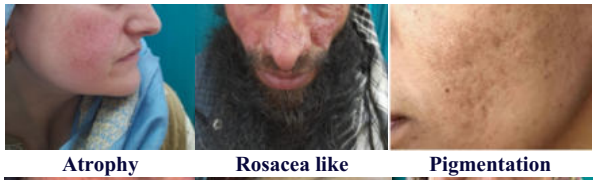
Patients who have used topical steroid for prolonged period of time presenting with features of topical steroid dependent face.

EXCLUSION CRITERIA

Patients who were unable to give written consent

Clinical features of topical steroid dependent face

Atrophy, Photosensitivity, Burning sensations, Pigmentation, Papules, Pustules, Acneiform eruption, Telangiectasia, Perioral dermatitis, Allergic contact dermatitis, Rosacea like features,



Atrophy | Rosacea like | Pigmentation

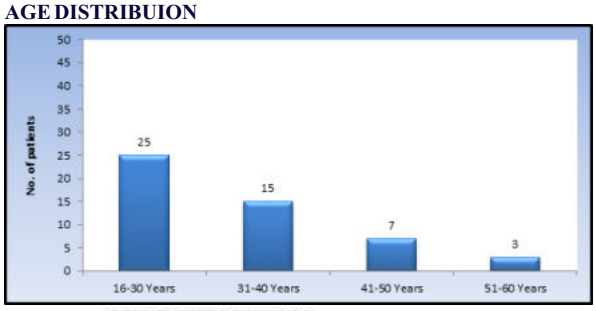
Acneiform eruption | Erythema | Photosensitivity

RESULTS:

The mean age of the study population being 32.32 years (Range 16-60 years). In selected 50 patients there were 34 (68%) females and 16 (32%) were males. The included 50 patients were distributed in two equal groups A and B. The mean age in group A was 30.32 years and in group B was 32.56 years. The patients in group A were given topical

tacrolimus and the patients in group B were given topical tacrolimus in combination with tocopherol based lotion. The patients were advised to follow up after two weeks, four weeks, six weeks and then eight week. Important fact to note that all patients showed steady decline in symptoms and clinical improvement at four to six week follow up. However there was significant improvement in group B patients when compared with group A.

AGE DISTRIBUION



SEX DISTRIBUION

DISCUSSION

Topical steroids are the most commonly prescribed drugs in dermatology and have been in use since ages for treating many dermatological disorders because of their anti-inflammatory and immunosuppressive properties [10]. By the passage of time many high potent topical corticosteroids have been introduced resulting in more prevalent adverse effects [11].These adverse effects seems 3 to 4 weeks after application.

In our study 50% patients were young (16-30 years), followed by 30% (31-40 years). Out of 50 patients 34 (68% patients were females) [12]. The reason for maximum representation of the young girls (16-30 years) may have been their consciousness towards their appearance [13]. In our study we use topical tacrolimus on group A in which there were 25 (50%) patients and topical tacrolimus in combination with tocopherol acetate in group B, in which we kept 25 (50%) patients The patients in group A were given topical tacrolimus alone prepration.The frequency of application in these patients was once at night time as in these patients skin was not enough tolerant to topical therapies so Intially these patients were advisied to apply a small amount of topical preprations roughly about a pea size for a period of two weeks. Subsequently the amount was gradually increased to a pulp of finger. In some patients were skin atrophy was markedly significant we instructed these patients to apply topical tacrolimus only for a period of two hours followed by face washing with tap water during the first two weeks of therapy . Later on patients used tacrolimus overnight.The purpose of this insidious increase in quantity and contact time was to avoid burning sensations, discomfort, itching, contact time and also uncessary withdrawl from the tacrolimus therapy. In our study the concentration of tacrolimus was 0.03% in both groups.These patients were followed at OPD sections ever two week interval for assement .In group B patients were given topical tacrolimus0.03% in a cream form in combination with tocopherol acetate based lotion. Patients used the tacrolimus once at night time followed by tocopherol acetate based lotion twice a day .The patients were advised to follow-up after two weeks, four weeks and six weeks and eight weeks. No infection or any other complications were reported during follow-ups.Important fact to note that all patients showed steady decline in symptoms in three to four weeks of follow-up. However at the follow-up of six to eight weeks there was significant improvement in group B patients both clinically and on dermoscopy as compared to group A.

Almost all patients showed significant improvement in symptoms, but the results in group B were better than group A.

CONCLUSIONS

Our study showed that topical tacrolimus in combination with tocopherol acetate based lotions was more effective than tacrolimus alone therapy. The effects of combination therapy were drastic and significant more important good patient compliance. Combination therapy seems to be better option in the treatment of topical steroid dependent face.

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