



Safety of salicylic acid peel in facial dermatoses

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Abstract

Background: Salicylic acid has been used topically to treat various skin disorders like melasma, acne, freckles, wrinkles etc. Although salicylic acid appears to be the miracle ingredient, there are genuine safety concerns associated with it.

Objectives: The aim of the study is to understand the side effects that can occur in different patients with various facial dermatoses, caused by using salicylic acid peel and on the basis of the results, to adjust the concentration of salicylic acid peel in certain group of patients to avoid undesired side effects if required.

Methods: The study included 52 patients, of either sex and aged between 10 years to 60 years, who underwent chemical peeling with 30 percent salicylic acid peel for various facial dermatoses that included acne, melasma, freckles, post inflammatory hyperpigmentation, fine lines, wrinkles, actinic keratosis and others. Depending on the severity of lesions, 4 to 8 sessions were done. On each weekly visit, tolerance and side effects of prior peel was evaluated, assessed and recorded in prepared questionnaire format.

Results: Transient erythema, excessive dryness, mild burning and irritation were the most common reported side effects in the patients. Persisting erythema that lasted for 2 days were present in 2 patients. Milia was reported by 2 patients. Treatment with salicylic acid peel for various facial dermatoses is a relatively safe procedure with only minor side effects occurring in few patients which can be easily managed.

Keywords: safety, salicylic acid, facial dermatoses

Introduction

Chemical peeling is the process of causing controlled chemical injury to the skin (partial or complete epidermis with or without the dermis) by application of a chemical peeling agent that causes exfoliation of the superficial layers of the skin, leading to removal of superficial lesions followed by rejuvenation of new epidermal and dermal tissue [1] Chemical peels are classified into superficial, medium depth and deep peels depending on depth of penetration and injury caused by them. It is a skin wounding procedure that may sometimes cause unwanted side effects Salicylic acid has been used topically to treat various skin disorders for more than 2000 years [2] The procedure can be used in rejuvenation and repair of sun damaged, wrinkled, blemished or scarred skin to a more even toned, textured skin. It is used in various facial dermatoses like melasma, acne vulgaris, freckles, post inflammatory hyperpigmentation, actinic keratoses, fine lines, wrinkles, post acne scars, plane facial warts etc.

Although salicylic acid appears to be the miracle ingredient in 1990s, there are genuine safety concerns associated with its extended use [3] Some of the side effects of salicylic acid peel includes burning, irritation, stinging, erythema that may last few minutes or can persist for weeks to months. There is a chance of reactivation of herpes simplex infection in patients with history of fever blisters [4] Some other side effects include milia, herpes zoster, herpes labialis, secondary bacterial infections, allergic sensitization, post inflammatory hyperpigmentation, scarring etc. So prior to the peel, it is important for dermatologists to study the skin type of patient, enquire about any past history of keloid tendencies, exposure to x-ray or radiation to face, recurring cold sores so that proper precautions could be taken and unwanted side effects can be avoided.

Materials and Methods

The study was conducted on patients with facial dermatoses requiring salicylic acid peel attending OPD of Dermatology, Venerology and Leprosy of KVG Medical college and Hospital, Sullia, Karnataka. Study involved 52 patients, of either sex, aged between 10 years to 60 years, who underwent chemical peeling with 30 percent salicylic acid peel. This was for various facial dermatoses that included acne, melasma, freckles, post inflammatory hyperpigmentation, wrinkles, actinic keratosis and others. Depending on the severity of lesions, 4 to 8 sessions were done 2 weeks apart. Consent was taken from each patient at the beginning of the procedure. The patient was explained about the procedure, the time duration, expectations with results and possible side effects, in detail before taking the consent. Before the application of peel, face was cleaned of any makeup, degreased by scrubbing with spirit gauze. Peeling was done with a brush applicator dipped in the peel solution taken in a glass peel bowl. Excess peel solution on brush was rubbed off on the edge of the bowl and then was applied with gentle strokes to the affected areas of face. Contact time of 7 mins was given and termination was done by gentle cleaning of the face with cold water, avoiding rubbing. Patients were advised to use physical sunblock during day time, which had to be reapplied every 3 hours apart. Patients were strongly advised against using soaps for at least one day after the peel. On each weekly visit, tolerance and reactions to the peel if any were noted and recorded on prepared questionnaire format.

Inclusion Criteria

1. Patients of various facial dermatoses that included melasma, acne, scars, freckles, PIH, actinic keratoses,

fine lines & wrinkles.

2. Patients with lesions limited to the face were included.

Exclusion Criteria

1. Patients having known sensitivity to chemical peels.
2. Patients with known keloidal tendency.
3. Patients having active or past herpes simplex infection.

Results

Out of the 52 patients included in the study 34(65.3%) were females and 18(34.6%) were males. The age group ranged from 20 to 60 years. All patients belonged to Fitzpatrick skin type 4 or 5. Most common adverse effect of the peel was transient erythema which was recorded in 34 patients which persisted for few minutes to hours and faded off completely. Persistent erythema was present in 2 patients. Second most common complaint was excessive dryness which was reported by 17 patients. Milia was reported in 2 and mild irritation in 9 patients. Burning sensation was noted in 5 patients who underwent the procedure.

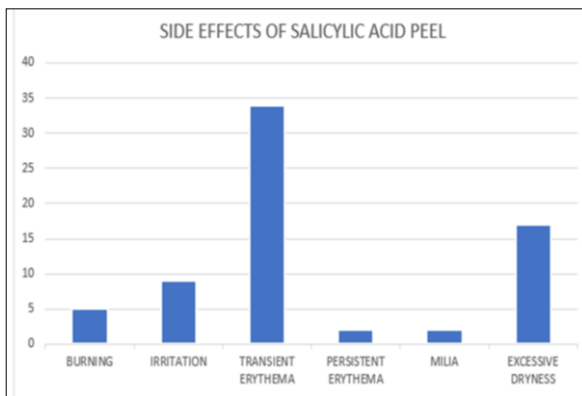


Fig 1: Chart Indicating the Frequency of Side Effects of Salicylic Acid Peel in Cases Treated

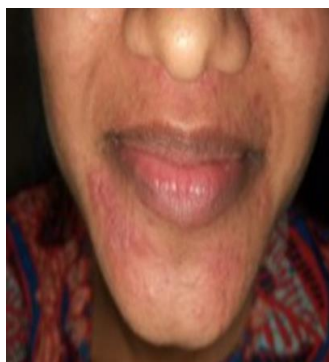


Fig 2: Patient who experienced persistent erythema associated with irritation and dryness



Fig 3: Burning sensation and transient erythema on a patient that lasted less than 2 hours

Discussion

This is a superficial chemical peeling procedure which was well tolerated by most of the patients. None regarded it as unacceptable. The side effects reported were minor and was easily managed. The erythema, irritation and burning subsided with topical application of corticosteroids to the affected areas. Excessive dryness was treated with addition of emollients. Milia was mild, reported in only 2 patients, were extracted. All the patients were happy with the results obtained from treatment. The degree of improvement varied from patient to patient.

In this study, results were found to be concurrent to the results of other studies that were done to measure the tolerance and safety of salicylic acid peel. In a study conducted by Sharma P *et al.* comparing salicylic acid and glycolic acid for treatment of acne, side effects were noted in all patients that included erythema, burning, dryness, peeling and the side effects were more pronounced in salicylic peel than the glycolic one [5] Bari AU *et al.* conducted a study involving 268 patients who underwent salicylic acid peel procedure for various facial dermatoses. All except 7 patients experienced mild burning, irritation and occasional stinging immediately after application of peeling agent that lasted for few minutes. Forty-three patients had additional erythema and dryness that persisted for few hours after application. Seven patients never experienced any such effect throughout treatment period. Milia was seen in 5 patients. Three patients developed herpes zoster and 7 of them had herpes labialis [6] Grime PE *et al.* in his study conducted in 25 patients to find the safety and efficacy of salicylic acid peel in darker racial ethnic groups, found improvement in skin conditions in 88 % people with minimal to mild side effect in 16 % [7].

Conclusion

Treatment with salicylic acid peel for various facial dermatoses is a relatively safe procedure with only minor side effects in few patients which can be easily managed. Level of tolerance to the chemical peel varies from patients to patients. Only very few found the procedure uncomfortable. Most patients were happy with the result obtained after the completion of all sessions. Few had minor side effects like milia, dryness, burning and irritation which were expected with such treatment and was well managed. None developed infections or post inflammatory hyper or hypo pigmentation which was reassuring.

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