

Salicylic acid peels

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INTRODUCTION

Chemical peeling continues to be the gold standard in cosmetic enhancement of facial skin. Chemical peeling of the face has been performed for many years. The ancient Egyptians used particles of alabaster mixed with milk and honey to abrade facial skin to create tightening. In Egypt Cleopatra is said to have bathed in sour milk, while French women have applied fermented wine to their faces to improve the quality of the skin. In 1882, Unna, a German dermatologist, reported the use of salicylic acid, resorcinol, phenol and trichloroacetic acid for chemical peels. In the early 1990's, Swineheart reported satisfactory results using 50% salicylic acid on the hands and forearms of patients with actinically induced pigmentary changes.¹ Although the literature is replete with the use of alpha hydroxy acids as peeling agents, there is dearth of published data regarding the efficacy and safety of salicylic acid peels.

CLASSIFICATION

Salicylic acid is a beta-hydroxy acid. It is a hydroxyl derivative of benzoic acid and represents a carboxylic acid attached to an aromatic alcohol, phenol.² Salicylic acid is the only member of the beta-hydroxy acid family, so named because the aromatic carboxylic acid has a

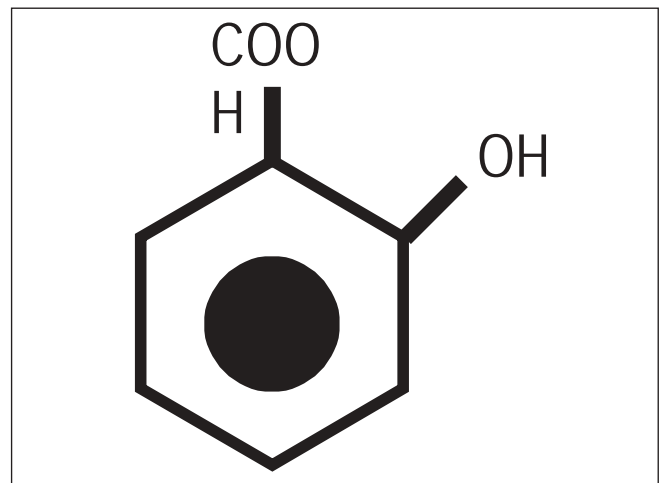


Figure 1: Chemical structure of salicylic acid

hydroxy group in the beta position (Figure 1). Salicylic acid is derived from willow bark, wintergreen leaves and sweet birch.

MECHANISM OF ACTION

Salicylic acid is an excellent keratolytic agent. It is thought to function through solubilization of intercellular cement, thereby reducing corneocyte adhesion. Because of its lipophilic nature, salicylic acid has a strong comedolytic effect. Salicylic acid affects the arachidonic cascade and thus exhibits anti-inflammatory capabilities.³

How to cite this article: Vedamurthy M. Salicylic acid peels. Indian J Dermatol Venereol Leprol 2004;70:136-8.

Received: February, 2004. Accepted: March, 2004. Source of Support: Nil.

INDICATIONS

These include acne vulgaris, enlarged pores, rough and oily skin, melasma, post-inflammatory hyperpigmentation, and photoaging.⁴

CONTRAINDICATIONS

A history of allergy to aspirin, and pregnancy and lactation are contraindications.

FORMULATIONS

1. 20-30% on a weight to volume basis in a hydroethanolic solution
2. 2% solution as skin cleanser, and in acne washes
3. Salicylic acid peel kits (Beta lift, Bioglan Pharma)
4. Salicylic acid paste (salicylic acid powder USP 50% methyl salicylate 16 drops, Aquaphor 112 g)

PREPARATION

As in any other chemical peel, patient selection is important. A good history taking and examination with relevance to peels is mandatory. Photodocumentation and a written consent are recommended

PRIMING

Patients are pretreated for 2 weeks with 4% hydroquinone for hyperpigmentary disorders and with tretinoin or an alpha-hydroxy acid for acne and photoaging.

PEEL PROCEDURE

The patient is asked to wash the face with soap and water to remove dirt and grime. A surgical cap is used to pull back the hair and cover the ears. The face is degreased by scrubbing with a cotton gauze piece soaked with ethanol or a pre-peel cleanser which accompanies the kit. Sensitive areas of the face such as the lips and the nasal-alar cheek junction are protected with a thin layer of petrolatum. The salicylic acid is applied using a cotton-tipped applicator or a wedge sponge in a predetermined manner on to the facial cosmetic units starting from the forehead and

progressing to the zygomatic cheeks, chin, upper lip, nose and lower eyelids. The whole procedure should be completed within 30 sec. At this point the subject experiences a stinging and burning sensation which increases over the next 2 minutes, reaches a crescendo at 3 min and then rapidly decreases to baseline over the next minute; this is considered the end point of the peel. As the hydroethanolic vehicle evaporates, it leaves behind a white precipitate of salicylic acid on the surface of the face which is termed as salicylic acid frost. There is very little penetration of the active agent once the vehicle has volatilized. At this point there is no burning or stinging as the agent causes a superficial anesthesia to light touch. The patient is instructed to wash the face with water and pat the face dry. Patients are then sent home with a moisturizer and instructed to limit sun exposure and use sunscreens appropriately.

POST-PEEL

Patients report a tightness and smoothness immediately post-peel. Peeling usually begins 2 days post-peel and can extend upto 7 days post-peel. Transient hyperpigmentation and superficial crusting may be seen in areas of inflammatory acne. Patients with Fitzpatrick skin type III may experience darkening during desquamation due to increased melanin sloughing. Minor side effects include superficial crusting, edema and transient purpura in the lower eyelid areas, hypopigmentation, transient dryness and hyperpigmentation, which resolves quickly.

INTERVALS OF APPLICATION

Peels can be repeated once in 2 weeks for 5-6 sessions.

DISCUSSION

Salicylic acid peel is a superficial chemical peel which is gaining popularity. It has been found to be safe and effective in darker skinned racial ethnic groups.^{5,6} Given the predictability, less downtime and efficacy compared with glycolic acid peels, salicylic acid peels are likely to become more popular in future. However, in light of the recognized tendency of darker skin to develop dyschromias, superficial peeling should be approached

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with care and caution.

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