

## ORIGINAL ARTICLE

## SALICYLIC ACID PEELING IN THE TREATMENT OF FACIAL ACNE VULGARIS

Sadaf Fasih, Asad Bilal Arif\*

Department of Dermatology, \*Anatomy, AJK Medical College, Muzaffarabad, Azad Jammu &amp; Kashmir, Pakistan

**Background:** Acne vulgaris is a common chronic inflammatory disease of pilosebaceous follicles. This study was designed to see the outcome of salicylic acid peeling for the treatment of mild to moderately severe facial acne vulgaris in Asian skin. **Methods:** This was a descriptive case series study carried out at Dermatology Department Sir Ganga Ram Hospital/ Fatima Jinnah Medical College Lahore from 24<sup>th</sup> May to 23<sup>rd</sup> November, 2015. A total of 75 patients with mild to moderately severe facial acne vulgaris were enrolled in the study. Salicylic acid (20–30%) was used for peeling over the face fortnightly for 3 months. Outcome was assessed in terms of good to fair response at one month follow-up visit after completion of therapy. **Results:** Sixty-eight (90.7%) patients showed good to fair response at one month follow-up. **Conclusion:** Salicylic acid peeling is effective for the treatment of mild to moderately severe facial acne vulgaris in Asian skin.

**Keywords:** outcome, salicylic acid peeling, acne vulgaris

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## INTRODUCTION

Acne vulgaris is a chronic inflammatory disease of pilosebaceous follicles characterised by comedones, papules, pustules, nodules and often scars.<sup>1–3</sup> It is one of the common skin diseases affecting at least 85% of the adolescents or young adults.<sup>4,5</sup> Mild to moderately severe acne vulgaris is characterised by minimum of ten papules and/or pustules assessed on clinical examination.

Chemical peeling is the application of a chemical agent to the skin which causes controlled destruction of a part or entire epidermis, with or without the dermis, leading to exfoliation and removal of superficial lesions followed by the regeneration of new epidermal and dermal tissues.<sup>6,7</sup>

Multiple treatment options are available but they require a long time to yield effective results.<sup>8</sup> There is need for an effective additional therapy for treatment of acne vulgaris accelerating the recovery.

## MATERIAL AND METHODS

It was a descriptive case series study conducted at Dermatology Department, Sir Ganga Ram Hospital (SGRH), Lahore, from 24<sup>th</sup> May to 23<sup>rd</sup> November, 2015.

Patients of 13–45 years of age, from either sex, suffering from mild to moderately severe facial acne vulgaris, as per operational definition were included in the study. Patients with co-morbid conditions like inflammatory bowel disease, irritable bowel syndrome, facial eczema and herpes simplex infection were excluded. Patients, taking photo-toxic drugs and/or on systemic salicylate medication, pregnant and lactating patients, patients on oral retinoid for last six months, or on any acne treatment for last 1 month, and patients having known hypersensitivity to salicylates were also

excluded. After taking written informed consent, patients fulfilling the inclusion criteria were enrolled through Dermatology Out-patient Department of SGRH Lahore.

Salicylic acid peeling was performed over the face at fortnight intervals. A total of 6 peeling sessions were done during the first 3 months. First two peeling sessions were done by using 20% salicylic acid while the last four peeling sessions were done by using 30% salicylic acid in methylated spirit. The use of other acne therapies was not permitted during the course of the study. Papules and pustules were counted before therapy and on each visit, by inspection under good light and magnification as well as by palpation. Percentage of improvement in the lesion count were calculated and recorded on the performa.

The outcome was measured on one month follow-up visit after the end of six peeling sessions. It was assessed in terms of good to fair response on the basis of percentage decrease in count of papules and/or pustules, and was graded as following:

Grade 1 (good response): >50% decrease in total count of papules/pustules from baseline

Grade 2 (fair response): 21–50% decrease in total count of papules/pustules from baseline

Grade 3 (poor response): 10–20% decrease in total count of papules/pustules from baseline

Grade 4 (no response): <10% decrease in total count of papules/pustules from baseline

Grade 5 (worse response): increase in the number of papules and pustules.

## RESULTS

Seventy-five patients were enrolled in the study. Of these, 31 patients (41.3%) were male, and 44 patients (58.7%) were female, with male to female ratio 0.7:1. The patients' age ranged from 13–28 years with a mean

age of  $19.21 \pm 2.88$  years, and the majority of the patients ( $n=35$ ; 46.67%) were from 18 to 20 years age.

A total of six peeling sessions were performed at 2-week intervals; final outcome was assessed at one month follow-up, after 6<sup>th</sup> peeling session. In our study 68 (90.7%) patients showed good to fair response, 4 (5.3%) showed poor response, and 3 (4%) patients showed no response. (Table-1).

At 2 weeks, 38 (50.7%) patients showed good to fair response, 10 (13.3%) patients showed poor response, 21 (28%) patients showed no response, while 6 (8%) patients showed worse response. At six weeks, 51 (68%) patients showed good to fair response, 10 (13.3%) patients showed poor response, 12 (16%) patients showed no response, and 2 (2.7%) patients showed worse response. At 12 weeks, 72 (96%) patients showed good to fair response while 3 (4%) patients showed poor response. (Table-2).

**Table-1: Results of Salicylic acid peel at 1 month follow up (n=75)**

Grades of response	Number	Percentage
1 (Good)	47	62.7
2 (Fair)	21	28
3 (Poor)	4	5.3
4 (No Response)	3	4
5 (Worse)	0	0

**Table-2: Comparison of grades of outcome at different time intervals [n (%)]**

Grade	At 2 weeks	At 6 weeks	At 12 weeks	At 1 month
1	5 (6.7)	21 (28)	47 (62.7)	47 (62.7)
2	33 (50.7)	30 (40)	25 (33.3)	21 (28)
3	10 (13.3)	10 (13.3)	3 (4)	4 (5.3)
4	21 (28)	12 (16)	0 (0)	3 (4)
5	6 (8)	2 (2.7)	0 (0)	0 (0)

## DISCUSSION

In our study, 90.7% patients manifested good to fair response at one month follow up visit after six peeling sessions. Kessler *et al*<sup>10</sup> compared the efficacy of glycolic acid and salicylic acid chemical peel for the treatment of mild to moderately severe facial acne vulgaris. They found that at one month follow up visit after the completion of six peeling sessions, 94% of the patients showed good to fair response on the side of the face being treated with salicylic acid peel, which is comparable with the results of our study.<sup>10</sup>

Majority of our patients manifested improvement in response as the number of peeling session increased. At 2<sup>nd</sup> week of study, only 38 (50.7%) patients showed good to fair response while at one month follow-up visit when 68 patients (90.7%) showed good to fair response. Similar observation was made in

the study conducted by Ho-Suplec and Hwan Kim, who studied the effect of salicylic acid peel for the treatment of acne vulgaris in Asian skin.<sup>8</sup> The mean total facial lesion count decreased from 68.2 at baseline to 64 at 2 week, 42 at 10 week and 39 by the completion of study which shows that the lesion count decreased as the number of peeling session increased.

There were 4 (5.3%) patients who showed increase in the number of acne lesions after salicylic acid peel was discontinued. Kessler<sup>10</sup> also reported that 13% of the patients had increase in the acne lesion count at two month after discontinuation of salicylic acid peel.

Garg *et al*<sup>11</sup> reported that salicylic mandelic acid peel is more effective than glycolic acid peel for the treatment of acne vulgaris. They also observed that the lesion count gradually increased after the discontinuation of salicylic mandelic acid peel.

## CONCLUSION

Salicylic acid peeling is effective in the treatment of mild to moderately severe facial acne vulgaris in Asian population. It can be an effective additional therapy in the hands of dermatologists to get a speedy cure.

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## Address for Correspondence:

**Dr Sadaf Fasih**, Assistant Professor, Department of Dermatology, AJK Medical College, Muzaffarabad, Pakistan. **Cell:** +92-333-6388220

**Email:** sweetsadaf1981@yahoo.com

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