

ABSTRACT

BACKGROUND:

Acne vulgaris can be a chronic inflammatory disease involving pilosebaceous unit. Post-inflammatory changes like pigmentation and scarring have a great deal of psychological morbidity in the patients. Duration of initial inflammatory lesions correlates positively with the severity of scarring. Thus, early and adequate treatment of acne vulgaris is needed for preventing scar formation.

Atrophic acne scars require procedural management for their better outcome.

Microneedling is a unique technique in which the skin is penetrated, non-invasively, thus retaining epidermal barrier. It is performed using small needles which cause controlled injury to skin, which heals by increased collagen formation, with little downtime, no excess scarring or photosensitivity.

KEYWORDS: post-acne scars, microneedling, dermapen, collagen

AIMS AND OBJECTIVES:

This study is aimed at objectively assessing the improvement in the grading of atrophic facial acne scars. The objective is to perform microneedling in the study participants, using an automated microneedling device.

MATERIALS AND METHODS:

It was an open-labeled, prospective interventional study, conducted at Department of Dermatology, Govt. Stanley medical college over a period of 1 year, in 42 patients.

Microneedling was done with the automated dermapen in patients with grade 2-4 atrophic acne scars attending skin OPD. 4 sittings, at an interval of 1 month was done and patients were followed up for 2 months. Procedure was assessed with post procedural photograph, patient satisfaction score, dermatology life quality index scoring and with Goodman and Baron grading as follows:

Improvement of scaring by 2 grades- excellent response,

Improvement by 1 grade- good response,

No change in grade but depth of scar improved (NGDI)- mild response

No improvement in grading- poor response.

OBSERVATION AND RESULTS:

- In our study, male patients outnumbered female patients
- Majority had history of inflammatory acne in the past, but only minority had taken regular treatment.
- Before treatment majority had grade 3 acne scars. Both rolling and boxcar types of scars were equally distributed.
- Following treatment, majority had grade 1 acne scars with no significant difference in grade improvement between boxcar and rolling scars. Poor improvement was seen with ice-pick scars.
- Around 37.5% exhibited excellent improvement and 87.5% had visible improvement in scar appearance.
- Atleast 2 sittings were required to produce some improvement , in most of the participants.

- Improved DLQI scoring and excellent satisfaction was seen in majority.
- Other benefits like reduced seborrhea and improved skin texture were reported.
- Only minimal side-effects like post-inflammatory pigmentation and acne aggravation was seen.

CONCLUSION:

- Microneedling with automated dermapen is a relatively safe, effective procedure having almost no downtime in the management of grade 2-4 boxcar and rolling scars. Dermapen allowed treating acne scars in difficult to reach areas and areas with thin skin like peri-orbital region, nose and forehead without much damage. This not only improves the appearance of acne scars, but also overall skin texture and reduces seborrhea of the face. Ice-pick scars need combination with other modalities like subcision and TCA CROSS for better outcomes.