



DERMATOLOGICAL SURGERY

TOPICAL TAZAROTENE 0.1% GEL AS A NOVEL TREATMENT APPROACH FOR ATROPHIC POST-ACNE SCARS – A RANDOMIZED ACTIVE-CONTROLLED CLINICAL TRIAL

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Introduction: Microneedling is a well established office-based procedure to manage the post-acne atrophic scarring. A home-based topical treatment with a comparable efficacy to microneedling would be a useful addition in the armamentarium of acne scar management.

Objective: To compare the efficacy of topical tazarotene gel, 0.1% to microneedling in the management of moderate to severe atrophic acne scars.

Materials and Methods: A prospective, observer-blinded, active-controlled, randomized clinical trial was done with follow-up period of six months including 36 patients with grade 2-4 atrophic post-acne scars. Each half of the face was randomized to receive either microneedling or topical tazarotene. Microneedling was done with a dermaroller of 1.5 mm needle length for a total of four sittings during the course of 3 months. Participants were instructed to apply topical tazarotene 0.1% gel to the other side of the face at night during this period. A blinded investigator evaluated outcome using Goodman-Baron's quantitative and qualitative acne scar severity scores and subjective independent dermatologist score (IDS, range 0-10) at 3rd and 6th months. Patient satisfaction was assessed using a patient global assessment (PGA, range 0-10) score.

Results: Both the tazarotene [8 (6-9.75) to 5 (3-6)] and microneedling [7 (6-10.75) to 4.5 (3-6)] sides achieved a significant improvement ($p < 0.001$) in quantitative acne scores, which was comparable between the groups [2.5 (2-4) vs. 3 (2-4) respectively, $p = 0.423$]. Median qualitative acne scar [baseline score = 4 (4-4), both groups] did not improve significantly on both sides. IDS also showed a comparable improvement in both groups. PGA score was slightly superior for the microneedling procedure, (5.86 ± 2.77 vs. 5.76 ± 2.23 , $p < 0.001$). Adverse events were minimal in both the groups.

Conclusions: Our study comparing home based topical retinoid (tazarotene 0.1% gel) application with physician administered microneedling showed comparable outcome with both methods regarding overall improvement in quantitative scar severity.

