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PROSPECTIVE EVALUATION OF KELOID/HYPERTROPHIC SCARS WITH NEEDLE-FREE HIGH-PRESSURE PNEUMATIC INJECTION: QUANTITATIVE VOLUMETRIC SCAR IMPROVEMENT

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Background: Keloid/Hypertrophic scar still pose a treatment challenge. Needle-free highpressure pneumatic injection has been introduced as a treatment for keloid/hypertrophic scars; however, few studies exist regarding its effectiveness.

Objectives: To evaluate the efficacy and safety of pneumatic injection for treating keloid/hypertrophic scars using a three-dimensional optical profiling system.

Methods and Materials: A pneumatic injection device with a 0.2-mm nozzle diameter, 40–55% pressure power, and 85-µL injection volume was used. The injection fluid contained triamcinolone 8 mg/mL. The scar height and volume were examined and analyzed using a three-dimensional optical profiling system and clinical photographs. The patients were also evaluated for side effects. Three treatments were administered a month apart and follow-up was performed until 1 month after the last treatment. The control was an untreated keloid/hypertrophic scar.

Results: Seventeen keloid/hypertrophic scars in 9 Korean men and women aged 19-72 years (mean, 44.8±15.2 years) were examined. The mean scar volume and height significantly decreased from 972.51 [?] to 527.26 [?] and from 1.61 mm to 0.92 mm, respectively, and from their baseline values after 3 treatments (p=0.049 and 0.042, respectively). [?] Significant differences were found between the non-treated and treated groups (p=0.031 and 0.003, respectively). No serious complications occurred.

Conclusion: Pneumatic injection treatment is safe and effective for reducing keloid/hypertrophic scars and quantitatively improves scar volume.





