Pressure Garment Therapy Alone and in Combination with Silicone for the Prevention of Hypertrophic Scarring: Randomized Controlled Trial with Intraindividual Comparison

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Background: Published trials evaluating pressure garment and/or silicone therapy as a treatment for hypertrophic burn scarring are of poor quality and highly susceptible to bias. The authors’ aim was to compare the efficacy of pressure garment therapy alone and in combination with silicone gel sheet or spray therapy for the prevention of hypertrophic scarring.

Methods: The authors conducted an open, single-center, randomized controlled study with intraindividual comparison of study preparations and control to standard treatment. Forty-three consecutive patients with two comparable areas of split-thickness graft burn wounds were recruited into the study, and 38 patients were followed up for 18 months. All patients received compression garments and were randomized to one of two treatment groups: (1) self-drying silicone spray and compression versus compression alone and (2) silicone sheeting and compression versus compression alone. Clinical assessment, measurement of scar redness, height, and photographic documentation of each treated area were performed at different visits over an 18-month follow-up period. Significance was tested using repeated-measures analyses and Wilcoxon paired-sample signed rank tests.

Results: Use of pressure garment therapy alone produced results equivalent to those of combined silicone and pressure garment therapy in the prevention of hypertrophic scars. The efficacy of silicone spray therapy was comparable to that of silicone gel sheet therapy in the prevention of hypertrophic scars. Patients treated with silicone spray had fewer side effects when compared with the silicone sheet group.

Conclusion: Multimodal therapy with silicone and pressure garment therapy failed to prevent hypertrophic scars beyond that observed with pressure garment therapy alone. (Plast. Reconstr. Surg. 128: 306e, 2011.)

CLINICAL QUESTION/LEVEL OF EVIDENCE: Therapeutic, II.

Burn injuries are among the most devastating of all injuries and constitute a major global public health crisis. In the United States, approximately 2.4 million burn injuries are re-