

Accelerated Healing of IIa-Burns Under the Influence of ESWT

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Device and producing company:

DermaGold (USA), Tissue Regeneration Technologies (TRT) Orthowave 180c (Outside USA), MTS Europe GmbH

Introduction:

Introduction: Musculoskeletal shockwave therapy increases blood flow in tissues and results in neoangiogenesis. In a study carried out on animals, enhanced tissue regeneration was observed in adipocutaneous flaps. The aim of our conducted clinical study was to demonstrate reduced duration of healing after shockwave therapy on IIa° burn wounds.

Methods:

Material and Methods: We carried out a prospective, randomized non-blinded clinical study. Musculoskeletal shockwave therapy was applied within 24 hours post-trauma. Shockwaves with an energy level of 0.1-0.14 mJ/mm² were used. Fifty patients with superficial second degree thermal lesions (burns and scalds) were selected, twenty-five patients from this group received ESWT treatment, twenty-five patients served as the control group. All participating patients, i.e. patients given ESWT as well as those of the control group, received identical dressings made of perforated silicon layer (Mepitel®) in combination with polyhexanid. Main objective criterion was the time to complete reepithelization, secondary objective criterion was the incidence of side effects.

Results:

Results: The group treated with ESWT resulted in a significantly shortened time of reepithelization (minus 2.48 days) compared to the control group. No side effects were observed.

Discussion:

The presently available publications discussing the positive effects of ESWT, especially on skin/soft tissue, underscore the results of our own study, in which a highly significant shortened period of reepithelization of skin donor sites via ESWT could be verified. Because ESWT is still in its early stages as a treatment for chronic wounds and skin lesions, the actual mechanism is purely hypothetical.

Conclusion: Conclusion: Extracorporeal shock wave therapy is a new treatment option in terms of a supplementary method in the therapy of superficial second degree burn wounds (IIa°).