

Clinical Experience with ESWT in Sub Acute and Chronic Wounds

Author:

Rainer Mittermayr¹⁺², Ch. Kölbl¹, M. Pusch¹, W. Schaden¹

Institutions:

1) Trauma Center Meidling, AUVA, Vienna, Austria 2) Ludwig Boltzmann Institute for Experimental and Clinical Traumatology – AUVA Research Center, Vienna, Austria Austrian Cluster for Tissue Regeneration, Vienna, Austria

Device and producing company:

DermaGold (USA) / Orthowave 180 (Outside USA), Tissue Regeneration Technologies (TRT) manufactured by MTS Europe GmbH

Introduction:

Sub-acute or chronic wounds of different aetiology represent a major problem not only for the patient but also for the social system. The Trauma Centre Meidling started treating wounds non-respondent to standard care with ESWT in August 2004. An update from the clinical ESWT experience between 2004 and 2007 is given.

Methods:

Patient study enrollment was done during routine clinical work between August 2004 and December 2007. Patients of both sexes with soft tissue wounds of different aetiology persistent longer than 1 month were included. The primary outcome measure was rate of wound closure. Secondary different correlation analyses (e.g. defect size, age, aetiology) were also done.

Results:

As of December 2007, 350 patients had been treated with unfocused extracorporeal shock waves (male: 56%, female: 44%), primarily in an outpatient clinical setting. Mean age was 50.4 (SD 18.0) in males and 71.7 (SD 16.2) in females. Main wound location was the lower extremity, followed by the upper extremity. Aetiologically, wound healing disturbances (38.8%) and post-traumatic necrosis (28.9%) were most common. The overall complete healing rate was 69.2%. In addition, 5% of patients showed a healing rate greater than 50% and 2.1% of the patients a healing rate lower than 50% of initial wound size. The percentage of wounds that remained unchanged during ESWT (=non-healed) was 5.9%. The percentage of patients who missed follow-up was 23.7%. A correlation between greater wound size and non-healing wounds was found in the aetiology of disturbed wound healing, whereas in the venous ulcers this was not found. A correlation was also found between age of the patient and therapy responsiveness.

Conclusion:

ESWT for sub-acute and chronic wounds that are partly non-responsive to standard of care, shows clearly beneficial effects in terms of entire wound closure.