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THE USE OF ELECTRICAL STOCHASTIC NOISE STIMULATION IN THE TREATMENT OF "HARD TO HEAL" WOUNDS OF LOWER LIMBS

Carlo Percudani[1], Anna Azzi[1], Silvia Bellingeri[1], Simona Busi[1], Michel Afargan[2].

[1]*Day Service di Colorno, Distretto di Parma, AUSL di Parma (Parma, Italy)*
[2]*LifeWave LTD. (Tel Aviv, Israel)*

Aim: To evaluate the therapeutic effects of noninvasive stochastic noise electrotherapy in hard-to-heal wounds.

Methods: 8 patients (2F;6M), all elderly (74.5±5.8years), with poor arterial circulation (TcPO2=29.1mmHg ± 9.6), except one (37 years; TcPO2 = 64 mmHg). All had ulcers «not healing» of the lower limbs (2 post traumatic; 1 pressure sore; 1 third degree burns; 2 venous; 2 diabetic). Surface average 12,5 cm^2 ± 9.8., PushTool average 11.5 ± 2.6pt.

Treatment: Low intensity current in microamperes range, 3 times daily 30 minutes each, electrodes placed on healthy intact skin closed to wounds edges. All ulcers were treated with dressings made in accordance with the best practice. Outcomes parameters are: percentage of wound surface reduction and improvement of granulation and epithelisation (measured by Push Tool 3.0 system).

Results: Three patients archived complete closure up to 40 days. Two patients discharged from the study due to hospitalization for other causes. One patient suspended because she was tired of the procedure. Two patients are still in treatment. In all cases except one (virtually unchanged) we observed a statistically significant reduction of wound surface and P.T. values (-49% and -4pt $P<0.05$ respectively). The average treatment time was 35.1 ± 17.5 days. TcPO2 after treatment increased from 29.1 mmHg ± 9. to 49.5 mmHg ± 6.7.

Conclusions: Although limited, our clinical data indicate that electrical stochastic noise stimulation is a promising, painless and well-tolerated treatment option. Because of the few cases examined, further studies are needed to evaluate the actual effectiveness in improving the skin's oxygenation.