

# **Polydeoxyribonucleotide increases healing rate of chronic diabetic ulcers: results from a multicenter, double blind, placebo-controlled, randomised, clinical trial**

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Foot ulcer is the principal cause of hospitalization for diabetics. Polydeoxyribonucleotide (PDRN) improves wound healing in diabetic mice (Altavilla et al., 2001; Galeano et al., 2008; Altavilla et al., 2009). The aim of this study was to evaluate the effect of PDRN on chronic ulcer healing in diabetic patients. This randomized, double-blind, placebo-controlled trial, involved 2 medical centers in Italy. Diabetics with Wagner ulcer grade 1-2, were randomly assigned to receive placebo (n=106) or PDRN (n=110). The treatments (PDRN and placebo) were performed three days a week for 8 weeks by intramuscular and peri-lesional routes for a period of 8 weeks. The primary outcome was complete ulcer healing. Secondary outcomes were the days needed to complete wound closure and the re-epithelialization of wound surface (as % of the original area). After 8 weeks 91 placebo and 101 PDRN subjects completed the study. Complete healing was achieved in 22% of placebo and in 40.6% of PDRN treated patient (p=0.0027). The relative hazard risk for PDRN subjects was between 1.16 and 3.93 (mean HR 1.98, p=0.012). The time to complete wound healing in days, was 49 in the placebo (range 42-56) and 30 in the PDRN group (range 14-56; P=0.0027). The median epithelialization of the ulcer was 49.3% in the placebo and 82.2% in the PDRN group (P<0.001). In conclusion, PDRN facilitates healing of chronic foot ulcer in diabetics.

## **References**

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Altavilla et al (2009) *Cardiovasc. Hematol Agents Med Chem* 7, 313-321

Galeano et al (2008) *Wound Repair Regen* 16, 208-217