A COHORT STUDY ON THE TREATMENT OF DIABETIC FOOT ULCER PATIENTS USING A MONOFILAMENT DEBRIDER AND A COLLAGEN DRESSING

Francisca H H Rieke, nurse practitioner diabetic foot
OLVG Hospital, Oosterpark 9, 1091 AC Amsterdam, The Netherlands. F.H.H.Rieke@olvg.nl

Introduction:
The diabetic foot ulcer is one of the major complications of Diabetes mellitus. It occurs in 15% of all patients with diabetes and precedes 84% of all lower leg amputations1. A major increase in mortality among diabetic patients, observed over the past 20 years is considered to be due to the development of macro and micro vascular complications, including failures of the wound healing process. Fibroblasts from the diabetic ulcer exhibit proliferative impairment that probably contributes to a decreased production of extracellular matrix proteins, delayed wound contraction and impaired wound healing1. The study evaluated efficacy of a treatment regime for twenty-five diabetic foot ulcer patients (grade A 1.2 and C 1.2) including preventive measures, a “monofilament fiber product for debridement” and a “collagen dressing” (Table 1). The collagen dressing has shown in vitro to have a high binding capacity for different pro-inflammatory mediators, like proteases and cytokines. A clinical study demonstrated the “collagen dressing” to help kick-start the stagnating wound healing process. The “monofilament fiber product has been successfully used for debridement of various wound types and peri-wound skin2.

Methods:
This observational study evaluated the debridement efficacy, safety, patient comfort and user satisfaction of the treatment regime. N = 25 Patients were followed during weekly visits for the first 4 weeks and during a follow-up period until ulcer healing. The “debridement product was wetted with polyhexanide. After the procedure, the wounds were covered with a “collagen dressing and a “foam”. Appropriate prevention measures, such as offloading were applied. Clinical outcome was scored by a trained clinician. Additionally, before and after photographs were assessed by one and the same clinician, who was blinded to the treatment given.

Results:
Twenty-five patients were included in the study (Table 2). Debridement was shown to be effective in all the sessions. In n= 8 cases additional surgical debridement was performed to remove the thick callus at the ulcer edges. The mean time for each debridement session was 2.59 minutes (±0.06). Visible debris, slough, hyperkeratosis and scabs were successfully removed with the “monofilament fiber product.

The “collagen dressing was used for a maximum of three weeks after which the dressing was discontinued and the “foam dressing was used as a primary dressing. No secondary infections occurred.

Conclusion:
Results indicate the potential for this treatment regime and the added value of the “monofilament fiber product to effectively and safely debride peri-ulcer skin and diabetic foot ulcers. Moreover the “collagen dressing supported kick-starting the stagnating wound healing process.

References: