

A Structured Follow-up Reduces the Incidence of Recurrences in High Risk Diabetic Foot Patients: A Prospective Study

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Introduction: A retrospective analysis showed an incidence of foot ulceration in high risk patients of our clinic of 39.7 % in one year, 60.6 % in three years and 70% in five years. We did this study to test if a structured follow-up program would be effective in reducing the incidence of ulceration in high risk patients.

Patients, Materials and Methods: All patients presenting at our clinic for the prevention of lower limb complication were screened for ulcerative risk according to the score proposed by International Consensus on Diabetic foot. All patients with a score ≥ 2 received, as a part of a structured prevention program, custom orthosis and shoes, in relation with the severity of their risk condition according to the protocol described by Dahmen et al. (Diabetes Care 24:705-709,2001). Patients were then followed for the incidence of ulceration for one year. A subset of patients was followed up for three and five years. **Results:** 1423 patients were screened for ulceration risk in 2002 and among them 226 (15.9%) were at high risk for ulceration; 203 (age 63.9 ± 9.3 yrs, DD 18.3 ± 9.3 yrs, HbA1c $8.9 \pm 1.4\%$) accepted to participate and were enrolled in the study. Among them 44% had neuropathy and deformity, 22% had previous ulceration, 27% previous minor amputation and 7% had neuro-osteoarthropathy. During the first 12-month follow-up, 12.7% of patients which received orthosis and shoes developed an ulcer, thus showing a reduction of -27% compared to the expected values. This group had a more severely impaired VPT at baseline compared to non-developers (37.1 ± 15.1 vs 26.5 ± 8.2 volt, $p < 0.01$) and reported to use the orthosis and shoes for a shorter time during the day (5.7 ± 3.4 vs 7.8 ± 1.6 hrs, $p < 0.05$). Among the subgroup of patients (n.55) with a longer follow-up the observed cumulated incidence of ulcer was 17.3% (-43.3%) and 21.2% (-48.8%) in three and five years respectively.

Conclusions: A structured follow-up prevention program, with the use of orthosis and shoes, is effecting in reducing the incidence of ulceration in diabetic patients at high-risk for lower limb complication.