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The course of long-term off-loading therapy by TCC and RCW in patients with more severe diabetic foot ulcers.

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Outcomes of lower limb off-loading are usually assessed in superficial diabetic foot ulcers (DFU). The aims of our study were to evaluate the course of healing within separate months and to assess the differences in healing of more severe DFU treated by removable Total Contact Casts (r-TCC) and Removable Cast Walkers (RCW). **Methods:** 56 patients with chronic, more severe DFU, whose were treated in our out-patient foot clinic from 2002 to 2007, were included into the study. Patients were divided into 2 groups according to the type of used off-loading device: 38 patients were treated by r-TCC and 18 patients by RCW. Both study groups did not differ significantly in mean age (54.6 ± 9.1 vs. 56.1 ± 9.5 years; NS), diabetes duration (16.5 ± 10.4 vs. 16.6 ± 13.7 years; NS), ulcer duration (14.8 ± 16.1 vs. 6.1 ± 8.2 months; NS) and in Wagner classification of DFU (superficial (Wagner (W) 1 and W2) DFU in 44.7% vs. 47.1% and W3 in 55.3% vs. 52.9% of patients; NS). Off-loading devices were applied till the DFU healing or maximally for 24 months. The course of DFU healing was statistically assessed by the differences of DFU sizes in separate months of off-loading therapy. The percentage of healed patients, healing time and numbers of RCW and TCC treatment complications were also evaluated during the observed period. **Results:** A significant reduction of DFU sizes was found after the first month in patients treated as by r-TCC ($\Delta 1.24 \pm 4.1 \text{ cm}^2$; $p < 0.01$) as by RCW ($\Delta 1.6 \pm 3.8 \text{ cm}^2$; $p < 0.5$). Similar significant decrease was noticed after the second month of off-loading therapy (in r-TCC group $\Delta 0.7 \pm 1.2 \text{ cm}^2$; $p < 0.01$; in RCW group $\Delta 1.2 \pm 2.9 \text{ cm}^2$; $p < 0.5$). Within the next months no significant reductions of DFU sizes were found in both study groups. Neither percentage of healed patients nor DFU healing time differed significantly in both study groups during the observed period (TCC group - 39.5% of healed patients, healing time - 5.5 ± 3.7 months vs. RCW group - 44.4%, 5.7 ± 4.5 months; NS). The occurrence of complications including the progression of local finding and newly developed osteomyelitis did not differ significantly between the study groups. **Conclusions:** No significant differences in the healing of more severe diabetic foot ulcers were found in patients treated by r-TCC and RCW. In both types of off-loading devices a noticeable healing deceleration arised after two months. Therefore, after passing of this period it is recommended to revise the treatment and accent therapy procedures.

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