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Clinical and economical aspects of off-loading methods in patients with diabetic foot.

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Total contact cast (TCC) is an effective method off-loading in patients with neuropathic diabetic foot ulcers. The aim of the study was to evaluate and compare the economic effectiveness of TCC vs therapeutic shoes (half-shoe). **Research design and methods:** Medical documents of 35 diabetic patients were examined. Superficial neuropathic plantar foot ulcers 1A, 1B classes (University of Texas Diabetic Foot Wound Classification System) were determined in all of them. Patients were treated in one diabetic foot outpatient clinic from 2006 till 2008. The mean age of the patients was 64,1 years (range 47-85). There were 91,4% (n=32) patients with diabetes type 2 and 8,6% (n=3) with diabetes type 1. Duration of the disease was 13,5 (1-27 years). Fifteen patients were in the cast group (TCC group) and 20 patients were in the shoe group. Two groups were comparable in age, gender and duration of diabetes mellitus (DM) ($p>0,05$). Patients of TCC group with 1B class ulcer undergone antibiotic therapy before overlapping of the TCC. Economic analysis was done for each of the groups separately. We evaluated cost of out-patient treatment of ulcers. Cost-effectiveness analysis (CEA) and cost benefit analysis (CBA) were carried out. We calculated only the direct costs, which included the cost of TCC or half-shoe, medical and nursing time, diagnostic evaluation (bacteriological study, X-ray), dressing materials, antimicrobial treatment, antiseptic solutions. **Results:** During the study period (90 days) in TCC group all ulcers completely healed (100%), in shoe group - 80%. The incremental cost-effectiveness ratio of TCC was the lowest. Cost benefit analysis showed that to reduce the healing period of diabetic foot ulcers for 1 day of TCC treatment requires additional costs - 1 dollar (USA) per day for treatment of patients with DM and 1A class ulcer, in patients with DM and 1B class ulcer - 12 cents per day. **Conclusions:** Our study showed that the use of TCC needs additional costs, but it is more effective in clinical and economical aspects. It allows shortening the period of ulcer healing in comparison with half- shoe method.