

PRIZE P4

Effect of chronic alprostadil therapy in patients with neuroischaemic diabetic foot

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Aim: The objective of our study was to observe the effect of a chronic complex therapy including multiple applications of alprostadil infusions on the perfusion of lower limbs in patients with neuroischaemic diabetic foot. **Patients and methods:** The study included 21 diabetic patients (all Type 2 diabetes mellitus; 7 women) with diabetic neuropathy, serious limb ischaemia and foot ulceration. The mean age of patients was 67.1 ± 8.1 years, the mean BMI was 29.6 ± 4.5 kg/m². During 4 years, the patients were treated with a series of daily infusions with 60 ug of alprostadil (period of 20 days), repeated twice in every year. Using digital photoplethysmography the ankle-brachial index (ABI), the toe-brachial index (TBI) and the interbranch index according to Oliva were measured before the therapy, one year after its beginning and on study completion after 4 years. **Results:** During the four years of observation a statistically significant (paired t-test) improvement of metabolic control (HbA1C value $7.9 \pm 2.3\%$ vs. $6.1 \pm 1.9\%$, $p < 0,001$) as well as a decrease of total cholesterol level (5.6 ± 0.8 vs. 4.8 ± 0.8 mmol/l, $p < 0,001$) occurred. During the multiple infusion therapy with alprostadil no statistically significant worsening of peripheral circulation parameters (ABI, TBI, interbranch index according to Oliva) was observed (see Table). A toe amputation was carried out in five patients, with the wounds fully healed. In 19 patients the ulcers healed completely, the average recovery time was 8.9 ± 7.9 months; no new ulceration developed. Two patients remained unhealed.

Table: changes during the alprostadil therapy

	Start	after 1 year	after 4 years
ABI	0.50 ± 0.29	0.51 ± 0.29 (n.s.)	0.44 ± 0.28 ($p < 0.05$)
TBI	0.31 ± 0.16	0.37 ± 0.18 ($p < 0.01$)	0.30 ± 0.14 (n.s.)

Conclusion: During a 4-year therapy, no statistically significant worsening of peripheral circulation parameters was observed in patients with neuroischemic diabetic foot. A complex treatment of diabetes, arterial hypertension and dyslipidemia combined with multiple infusions of alprostadil led to a consolidation of ulcerations. No high amputation of limb was required. A periodic infusion treatment with alprostadil forms a significant part of the complex therapy.