

## 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  $67.1 \pm 8.1$  years, the mean BMI was  $29.6 \pm 4.5$  kg/m<sup>2</sup>. 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 ( $5.6 \pm 0.8$  vs.  $4.8 \pm 0.8$  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  $8.9 \pm 7.9$  months; no new ulceration developed. Two patients remained unhealed.

**Table:** changes during the alprostadil therapy

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