

Abstract

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Predictors of alpha-lipoic acid treatment efficacy in diabetic polyneuropathy of the lower limbs

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AIM: To study efficacy of sensory deficiency treatment with alpha-lipoic acid (ALA).

MATERIAL AND METHODS: Twenty seven patients with diabetes mellitus (DM) type 1 and diabetic polyneuropathy of the lower limbs received ALA treatment (600 mg, i.v., drip, for 15 days followed by 600 mg, per os, for 2 months). Mean age 40.9 +/- 6.9 years, DM history 17.6 +/- 5.1 years, HbA1c--9.44 +/- 1.94% (standard 4.0-6.2%). Tactile, vibration, pain sensitivity was assessed, electroneurography (n. suralis, n. tibialis) was made. The severity of sensory deficiency was determined by 10-score Young scale.

RESULTS: There were positive changes in objective and electrophysiological parameters. The severity of sensory deficiency and treatment effect depend on DM duration and initial sensory deficiency (predictory value of the regression model was 92%, $p = 0.001$), initial neuropathy severity was responsible for up to 66% of the effect. The highest positive response of polyneuropathy was achieved in initial threshold of vibration sensitivity under 16 V or in total score of neuropathy severity under 6.

CONCLUSION: ALA treatment of sensory deficiency was most effective in patients with a short history of DM and mild initial neurological disorders (neuropathy severity by M. Young scale under 6 scores, threshold of vibration sensitivity under 16 V).

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