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Alpha-lipoic acid may improve symptomatic diabetic polyneuropathy.

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Abstract

OBJECTIVE: In patients with symptomatic diabetic polyneuropathy, is oral alpha-lipoic acid (ALA) effective in improving neuropathic symptoms compared with placebo?

METHODS: The question was addressed with a structured evidence-based clinical neurologic practice review via videoconferencing between 3 academic institutions. Participants included consultant and resident neurologists, clinical epidemiologists, medical librarians, and clinical content experts. A critically appraised topic format was employed, with a clinical scenario, structured question, search strategy, appraisal, results, summary of evidence, commentary, and bottom-line conclusions.

RESULTS: A single modestly valid randomized controlled trial demonstrated that oral ALA in doses of 600 mg, 1200 mg, and 1800 mg was effective in reducing neuropathic symptoms of diabetic distal symmetric polyneuropathy (DSP) at 5 weeks, as assessed by the Total Symptom Score (>or=50% reduction), with number needed to treat (NNT) (95% CI) of 2.7 (1.8 to 5.8), 4.1 (2.3 to 20.2), and 3.2 (2.0 to 8.6), respectively. Adverse events, including nausea, vomiting, and vertigo, were identified but occurred most frequently with ALA doses of 1200 mg and 1800 mg. Overall, treatment emergent adverse events for ALA 600 mg were not significantly different than placebo, but ALA 1200 mg and 1800 mg had number needed to harm (95% CI) of 4.5 (2.4 to 31.0) and 3.0 (1.9 to 7.1), respectively.

CONCLUSION: Oral ALA may improve neuropathic symptoms in diabetic DSP. A single modestly valid RCT demonstrated that 600 mg was an effective and well-tolerated dose, with NNT 2.7 to significantly reduce neuropathic pain symptoms over a 5-week period. ALA's role and place in an algorithm among other commonly prescribed oral treatments for symptomatic relief of neuropathic pain in diabetic DSP remains unclear.

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