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## Acetyl-L-carnitine in the treatment of painful antiretroviral toxic neuropathy in human immunodeficiency virus patients: an open label study.

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### Abstract

Antiretroviral toxic neuropathy causes morbidity in human immunodeficiency virus (HIV) patients under dideoxynucleoside therapy, benefits only partially from medical therapy, and often leads to drug discontinuation. Proposed pathogeneses include a disorder of mitochondrial oxidative metabolism, eventually related to a reduction of mitochondrial DNA content, and interference with nerve growth factor activity. Carnitine is a substrate of energy production reactions in mitochondria and is involved in many anabolic reactions. **Acetyl carnitine treatment promotes peripheral nerve regeneration and has neuroprotective properties and a direct analgesic role related to glutamatergic and cholinergic modulation.** The aim of this study was to evaluate acetyl-L-carnitine in the treatment of painful antiretroviral toxic neuropathy in HIV patients. Twenty subjects affected by painful antiretroviral toxic neuropathy were treated with oral acetyl-L-carnitine at a dose of 2,000 mg/day for a 4-week period. Efficacy was evaluated by means of the modified Short Form McGill Pain Questionnaire with each item rated on an 11-point intensity scale at weekly intervals and by electromyography at baseline and final visit. **Mean pain intensity score was significantly reduced during the study,** changing from 7.35 +/- 1.98 (mean +/- SD) at baseline to 5.80 +/- 2.63 at week 4 (p = 0.0001). **Electrophysiological parameters did not significantly change** between baseline and week 4. **In this study, acetyl-L-carnitine was effective and well tolerated in symptomatic treatment of painful neuropathy associated with antiretroviral toxicity. On the contrary, no effect was noted on neurophysiological parameters.**

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