Abstract

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OBJECTIVE: This study examines the potential efficacy of acetyl-L-carnitine (ALC) to prevent and treat paclitaxel-induced pain.

METHODS: Rats received four intraperitoneal (i.p.) injections of 2 mg/kg paclitaxel on alternate days which, following a short delay induced marked mechanical hypersensitivity.

RESULTS: Daily administration of ALC (50 mg/kg and 100 mg/kg; p.o.; concurrently with paclitaxel and for 14 days afterwards) prevented the development of paclitaxel-induced pain. This effect was long lasting, for at least 3 weeks after the last dose of ALC. In a separate experiment, daily administration of ALC (100 mg/kg; p.o.; for 10 days) to rats with established paclitaxel-induced pain produced an analgesic effect. This effect dissipated shortly after ALC treatment was withdrawn.

CONCLUSION: We conclude that ALC may be useful in the prevention and treatment of chemotherapy-induced painful peripheral neuropathy.

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