

عنوان مقاله:

Anti-inflammatory and anti-apoptotic effects of hyperbaric oxygen preconditioning in a rat model of cisplatin-induced peripheral neuropathy

محل انتشار:

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خلاصه مقاله:

Objective(s): Cisplatin-induced peripheral neuropathy is a debilitating side effect in patients receiving this drug. Recent studies suggest hyperbaric oxygen (HBO) therapy as a new treatment approach for models of neural injury. The aim of the current study was to determine the protective effects of HBO preconditioning against peripheral neuropathy induced by Cisplatin (CDDP). Materials and Methods: The present study was conducted on 4 groups of rats: Sham group; HBO group (60 min/d); Control group (CDDP 2 mg/kg/d); Precondition group (HBO+CDDP). Mechanical threshold testing was weekly carried out using von Frey filament. Sciatic nerve and associated ganglia were removed five weeks after the first CDDP injection for biochemical evaluation of malondialdehyde (MDA) content and myeloperoxidase (MPO) activity, immunohistochemistry of terminal deoxynucleotidyl transferase dUTP nick end labeling (TUNEL), TNF- α , caspase-3 and iNOS, and transmission electron microscopic (TEM) assessments. Results: MDA levels and MPO activities were significantly decreased in preconditioned rats. Attenuated TUNEL reaction along with attenuated caspase-3, TNF- α , and iNOS expression could be significantly detected in preconditioned rats. Also, HBO preconditioning improved the nociceptive threshold. Conclusion: The results suggest that HBO preconditioning .can attenuate peripheral neuropathy caused by cisplatin in rats

کلمات کلیدی:

Apoptosis, Cisplatin, Hyperbaric oxygen, Inflammation, Neuropathy

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