عنوان مقاله:

Effect of chondroitinase ABC on inflammatory and oxidative response following spinal cord injury

محل انتشار:

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خلاصه مقاله:

Objective(s): Chondroitinase ABC (cABC) treatment improves functional recovery following spinal cord injury (SCI) through degrading inhibitory molecules to axon growth. However, cABC involvement in other pathological processes contributing to SCI remains to be investigated. Here, we studied the effect of cABC I on oxidative stress and inflammation developed in a rat model of SCI.Materials and Methods: Male rats (۲۲۰–۲۵۰ g) were divided into three groups (n=۲۸) including rats that underwent SCI (SCI group), rats subjected to SCI and received an intrathecal injection of phosphate buffer saline (SCI+PBS group), and rats that underwent SCI and received cABC intrathecally (SCI+E group). Then, the level of TNF-α, Il-۱β, malondialdehyde, nitric oxide, and myeloperoxidase in injured tissues, as well as hindlimb motor function, were measured at ۴ hr, ۱, ۳ and ۷ days post-SCI.Results: Our data showed that cABC treatment reduced the development of inflammation and oxidative stress associated with SCI at all-time points. In addition, functional recovery was improved in rats that received cABC at ۷ days post-SCI.Conclusion: The present findings indicate that cABC treatment can exert its neuroprotective effect through modulation of post-traumatic inflammatory and oxidative response.

کلمات کلیدی:

Chondroitinase ABC, Functional recovery, Inflammation, Oxidative stress, Spinal cord injury