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Poster Presentation

Effect of curcuma longa (Curcumin) in Neuropathic Pain Behavioral Response to CCI Model in Rat

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Abstract

Treatment of neuropathic pain is still a major challenge because of its noresponsiveness to most available pharmacotherapy. Curcumin has been reported to play an active role in the treatment of various neurological disorders, such as neuropathic pain. In this study, the role of curcumin has been evaluated in pain behavioral responses of chronic Constriction injury (CCI) in rat. In this experimental study male Wistar rats (200–250 g) were used. Animals have been categorized as random based on groups of CCI, CCI with vehicle injection and CCI with 30 and 60 mg/kg Curcumin injection. For induction of CCI, Bennett & Xie (1988) method has been used applying CCI by 4 loose ligatures. Fourteen days after creation of neural injury, IP Injection of Vehicle and Curcumin have been started and continued to 26th day as daily. Animal behavioral responses have been measured using mechanical allodynia (Von Frey) and thermal hyperalgesia in 14 to 40th days After CCI. Data analyzed by one-way ANOVA and tukey test. Results indicated that CCI increases pain behavioral responses as significantly ($P<0.05$). Curcumin injection (30mg/Kg) leads to decrease of mechanical allodynia from 20th day and thermal hyperalgesia from 23th day. These effects have been continued to 40th day. Curcumin injection (60 mg/kg) leads to decrease of mechanical allodynia and thermal hyperalgesia only in 26th day. Based on findings, probably, curcumin can be effective on resulted neuropathy pains of CCI.

Keywords: Cci, Curcumin, Thermal Hyperalgesia, Mechanical Allodynia, Rat

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