Abstract

The present study was designed to investigate the ameliorative role of ethanolic extract from leaves of Butea monosperma in chronic constriction injury (CCI) of sciatic nerve induced neuropathic pain in rats. Hot plate, acetone drop, paw pressure, Von Frey hair and tail immersion tests were performed to assess the degree of thermal hyperalgesia, cold chemical allodynia, mechanical hyperalgesia & allodynia in the left hind paw and tail thermal hyperalgesia. Further on, thiobarbituric acid reactive substances (TBARS), reduced glutathione (GSH) and total calcium levels were estimated to assess the biochemical changes in the sciatic nerve tissue. Histopathological changes were also observed in the sciatic nerve tissue. Ethanolic extract of Butea monosperma leaves and pregabalin (serving as positive control) were administered for 14 consecutive days starting from the day of surgery. CCI resulted in significant changes in behavioural and biochemical parameters. Pretreatment of Butea monosperma attenuated CCI induced development of behavioural, biochemical and histopathological alterations in a dose dependent manner, which is comparable to that of pregabalin pretreated group. These findings may be attributed to its potential anti-oxidative, neuroprotective and calcium channel modulatory actions of Butea monosperma.

Keywords

Anti-oxidant, Butea monosperma, calcium, chronic constriction injury, reduced glutathione, thiobarbituric acid reactive substance.