

عنوان مقاله:

The effect of date aqua extract and melatonin on diabetic neuropathy in STZ-induced diabetic rats

محل انتشار:

فصلنامه پزشکی هرمزگان، دوره 17، شماره 4 (سال: 1392)

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خلاصه مقاله:

Introduction: Diabetes mellitus is often associated with chronic neuropathy, a condition which is due to the disturbance in the function of peripheral nervous system. Studying the effects of antioxidants in relieving neuropathy is of a great clinical importance. The aim of this study was to compare the effect of aqua extract of date and Melatonin in preventing neuropathic hyperalgesia in Streptozotocin-induced diabetic rats. **Methods:** In this experimental study, 40 male Sprague dawley rats weighing 200-250gr were divided into five groups of control, sham, diabetics+ melatonin and diabetics+ date extract and diabetic+solvent. Diabetes was induced by intraperitoneal injection of streptozotocin (45mg/kg B.W) solved in 0.05M citrate buffer. After confirming diabetes statue, experimental groups received either melatonin (10mg/kg/day), date extract (5mg/kg/day) or solvent for a duration of 6 weeks. At the end of the 6th week, all groups were investigated using Hot plate and Tail flick tests. Analysis of variance with significance level of $P<0.05$ was used for statistical analysis. **Results:** In Hot plate test, solvent group showed significant decrease in the time of thermal pain response compared to the non diabetic control group ($P<0.01$). Date extract group showed an increase in the time of response to thermal pain as compared to the solvent group ($P<0.01$) in a way that response time was close to that in the non diabetic control group. Although time of response to pain in melatonin-administered group was close to that in the non diabetic control group, melatonin group had no significant difference with other groups. There was no significant difference among groups based on the results of Tail flick test. **Conclusion:** The results of this study show that both date aqua extract and Melatonin as antioxidants prevent and decrease neuropathic hyperalgesia in diabetic rats. In addition, the protective effect of date aqua extract in prevention of diabetic hyperalgesia is more than .Melatonin

کلمات کلیدی:

Melatonin, Diabetes, Neuropathy, hyperalgesia, Melatonin, Diabetes, Neuropathy, hyperalgesia

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