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The protective effect of *Aloe vera* extract against effects of acute or chronic immobilization stress on serum level of creatine kinase in male rats

S. Akbari-Rad[1,*], R. Ahmadi[2]

[1]Department of Cell and Molecular Biology, Faculty of Basic Sciences, Tonekabon Branch, Islamic Azad University, Tonekabon, Iran
[2]Department of Physiology, Faculty of Basic Sciences, Hamedan Branch, Islamic Azad University, Hamedan, Iran

Background and Aims: Studies show that immobilization stress has a variety of effects on body enzymes activities. The main aim of this study was to determine the protective effect of Aloe vera extract against effects of acute or chronic immobilization stress on serum level of creatine kinase in male rats.
Methods: In this experimental study, male Wistar rats weighing 200±30g were randomly divided into control, normal saline receiving, Aloe vera extract receiving, acutely or chronically immobilized, acutely or chronically immobilized Aloe vera extract receiving, and acutely or chronically immobilized normal saline receiving animals of 5 in each group. Chronically and acutely immobilized animals were immobilized for 2h/day and 8h/day for a period of 3 weeks and one week, respectively. Aloe vera extract was administered by gavage feeding. Blood samples were collected using cardiac puncture method. Following serum collection, creatine kinase level was measured by spectrophotometery method. Data were statistically analyzed and compared between groups using ANOVA.
Results: The results indicated that serum creatine kinase level was significantly increased in rats enduring acute or chronic immobilization compared with control animals ($P<0.001$). However, serum creatine kinase level was not significantly changed in Aloe vera extract receiving or acutely or chronically immobilized Aloe vera extract receiving rats compared with control animals.
Conclusions: Immobilization stress enhances serum level of creatine kinase, however, intake of Aloe vera extract can protect against increasing effect of immobilization on serum creatine kinase level.

Keywords: Creatine kinase; Immobilization stress; *Aloe vera*; Rat