

Neuroprotective effects of dehydroascorbic acid

Bae Hwan Lee, Se Jung Jung, Eun Shin Kim,
Kyung Hee Lee, Un Jeng Kim

Medical Research Center, Brain Korea 21 Project for Medical Sciences, Yonsei University
College of Medicine, C.P.O. Box 8044, Seoul 120-752, Korea

Abstract

Ascorbic acid (AA), a well-known antioxidant, may play a significant role to protect neuronal cells against oxidative stress. Dehydroascorbic acid (DHA) is regenerated into AA at the expense of reduced GSH within the cells. The present study examined the effects of AA and DHA on functional recovery from spinal cord injury (SCI) in rats. AA or DHA was injected intravenously in the SCI rat model. The rats injected with DHA showed effective behavioral recovery compared with the saline-treated group. However, there was no significant difference between the AA treated group and the saline treated group. These results suggest that DHA may improve functional recovery from spinal cord injury and may provide an insight into a therapeutic approach on neurodegenerative disorders.

Keyword : *ascorbic acid; dehydroascorbic acid; functional recovery; spinal cord injury*