Turkish Journal of Medical Sciences

Turkish Journal

of

Medical Sciences

A Comparison of Erythrocyte Superoxide Dismutase and Catalase Activity in Patients With Hepatitis C Infection

Aysun Bay KARABULUT[1]
Emine SÖNMEZ[2]
Yaşar BAYINDIR[3]
Engin GÖZÜKARA[1]

Departments of [1]Biochemistry, [3]Infectious Diseases and Clinical Microbiology, Faculty of Medicine, İnönü University, Malatya, [2]Department of Infectious Diseases and Clinical Microbiology, Faculty of Medicine, Kadir Has University, İstanbul - Turkey

Keywords
Authors

medsci@tubitak.gov.tr

Scientific Journals Home Page

Abstract: Hepatitis C virus (HCV) infection remains important due to difficulties in treatment up to a chronic state. It is considered that free radicals, lipid peroxidation and antioxidant defense play a role in various tissue damages, just as in certain types of viral hepatitis. Since only limited data has been reported concerning oxidative stress in viral hepatitis, a comparative study was planned for patients with hepatitis C. In this study, we searched for erythrocyte superoxide dismutase (SOD) and catalase (CAT) activities in patients with HCV infection who had received and not received recombinant interferon alpha. Four groups of patients [Group I: 15 healthy, volunteers served as a control group; Group II: 10 patients with acute HCV infection; Group III: 15 untreated patients with chronic HCV infection; and Group IV: 15 patients who completed six months of interferon therapy (9 million U/week)] were included in the study. In Group I, SOD activity (as means $\pm$ standard deviation) was 2213.29 $\pm$ 152.01 U/g Hb; in Group II, 2643.03 $\pm$ 142.44 U/g Hb; in Group III, 1135.79 $\pm$ 122.27 U/g Hb; and in Group IV, 1734.78 $\pm$ 183.72 U/g Hb. The difference between the groups was statistically significant ($p < 0.05$). Erythrocyte means $\pm$ standard deviation CAT levels in Group I were 252.10 $\pm$ 61.09 K/g Hb; in Group II, 253.37 $\pm$ 29.68 K/g Hb; in Group III, 291.80 $\pm$ 72.54 K/g Hb; and in Group IV 220.43 $\pm$ 36.39 K/ g Hb. The difference between Groups I, II and III was not statistically significant ($p > 0.05$), but was for Groups III and IV ($p < 0.005$) In conclusion, erythrocyte SOD activity increased in acute hepatitis C patients, but decreased in chronic hepatitis C patients, and this decrease was reversed when treated with interferon.

Key Words: Hepatitis C, superoxide dismutase, catalase, interferon alpha

Turk J Med Sci 2002; **32**(4): 313-316.
Full text: pdf
Other articles published in the same issue: Turk J Med Sci,vol.32,iss.4.