

DETERMINATION OF OXIDATIVE STRESS AND SOME ANTIOXIDANT ENZYME ACTIVITIES IN HANDBALL PLAYERS

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ABSTRACT

Purpose: Acute exercise, lipid peroxidation and free radicals, formed in consequence of oxidative stress, show a change in terms of type and time and intenseness of exercise. In this study, determination of degrees of oxidative stress and some antioxidant enzyme activities in handball players has been aimed.

Method: In this study, 14 male sportsmen who play handball and 14 sedantery individuals have been taken into the study. The degrees of malondialdehyde (MDA) and catalase(CAT) activities and reduced glutathione have been measured as spectrophotometric.

Conclusions: Statistically significant difference between degrees of MDA, CAT and GSH of control group and handball players has been found($p<0.05$). A significant decrease in values of MDA and catalase, which is an important antioxidant enzyme activity, has taken place in handball players compared to control group, value of GSH in handball players has been found higher than that of control group($p<0.05$).

Consequently, in sportsmen who take part in handball team, an increase in GSH has been seen whereas a decrease in Catalase and MDA has occurred. It can be said that reduced glutathione which has the characteristic of antioxidant enzyme is a good protector against oxidative damage in individuals who do intensive exercise.

Keywords: Handball, Catalase, Glutathione.