OXIDATIVE STRESS AND IRON STATUS IN ELITE AND NON-ELITE ATHLETES OF VARIOUS SPORTS.

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Abstract

PURPOSE:

Free radicals and iron metabolism can influence physical performance. Free radicals are reactive compounds that are naturally produced in the human body. They can exert positive effects (e.g. on the immune system) or negative effects (e.g. lipids, proteins or DNA oxidation). The purpose of this epidemiological study was to investigate the characteristics of the red blood cell system and the iron metabolism in athletes of different sporting disciplines and at different levels of performance.

METHODS:

We studied 47 male subjects (30 athletes, 11 untrained controls). Hemoglobin (Hb), hematocrit (Hct), red blood cell count (RBC), iron, transferrin, ferritin (Fer), glutathione ,uric acid and haptoglobin were analyzed in standardized blood samples, obtained after 2 d of rest,

RESULTS:

Difference was found between athletes and controls in Hb and Hct. Reduced Hb, Hct, RBC and glutathione levels were observed.

CONCLUSION:

Physical training itself has significant effect on selected hematological variables in athletes compared with untrained controls.

**Keywords:** Ferritin, Glutathione, Athletes