Oxidative Stress Parameters in Turkmen Horses During Training and Competition

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Abstract

Turkmen horse is one of the prominent breeds in the world. Stamina and the ability to survive in tough environmental condition is a distinctive feature of this breed. These abilities make this horse to be considered as a sport horse. The purpose of this study was to evaluate performance of this breed during competition. Fifteen Turkmen horses were used in the present study. Blood sampling was performed for analysis of Oxidative stress parameters (specific and non-specefic). Blood samples collected 24 hours before competition, immediately after competition, 6h, 24h and 48h after competition. Oxidative stress parameters that were measured include MDA, Troponin, Thiol group, Iron, Zinc, Copper and Uric Acid. Statistic analysis showed significant changes during sampling time for uric acid and iron ($\leq 0/05$). Despite of significant changes in two non-specefic parameters, the others did not change significantly. Results showed that Turkmen horses have appropriate adoptability during short distance racing and the stress of a fast race has disapeared well.

Keywords: Turkmen horse, Sports profile, oxidative stress.

References

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To keep your show horses less stressed at competitions, the researchers made a few suggestions based on their studies and observations. â€œIt is likely beneficial to prepare young horses for the competition environment by giving them some pleasant experiences with various novel environments,â€ said Christensen. â€œI think some stress is unavoidable when horses take part in competitions, so the most important part is to allow them a good horse life in their home environment, meaning daily pasture time with other horses, sufficient roughage, and appropriate training using learning theory. This will r The purpose of the present study was to investigate the effect of different training loads and competition on oxidative stress, biochemical parameters and antioxidant enzymatic defense in handball athletes during 6-months of monitoring. Ten male elite handball athletes were recruited to the study.Â During most intense periods of training and competitions there were significant changes in plasma indices of oxidative stress (increased TBARS and decreased thiols).Â Oxidative stress and antioxidant biomarkers can change throughout the season in competitive athletes, reflecting the physical stress and muscle damage that occurs as the result of competitive handball training. In addition, these biochemical measurements can be applied in the physiological follow-up of athletes. Oxidative stress reflects an imbalance between the systemic manifestation of reactive oxygen species and a biological system's ability to readily detoxify the reactive intermediates or to repair the resulting damage. Disturbances in the normal redox state of cells can cause toxic effects through the production of peroxides and free radicals that damage all components of the cell, including proteins, lipids, and DNA. Oxidative stress from oxidative metabolism causes base damage, as well as strand