

The impact of endurance training on selected blood parameters of Arabian purebred horses

Summary

The study investigated the effect of the training workload on horses being prepared for the horse endurance season. Purebred Arabian horses of all ages and levels of training participated in the experiment. The purpose of the study was to determine whether the progressive intensity of exercise during the training season influenced the level of blood haematological and biochemical markers and physiological parameters (heart rate, dehydration, and movement) in endurance horses. Three rounds of the study were conducted. During each one, the blood of the horses was tested at rest, immediately after exercise and 30 min after exercise. In addition, after each training session the horses' heart rate, movement and dehydration were tested. Haematocrit, leukocyte, erythrocyte and platelet counts, haemoglobin level, MCV, MCHC, total protein concentration and creatine kinase concentration were evaluated. The results showed that the horses were well prepared for the sport season and the vast majority of the parameters tested were within reference standards. The total protein level and haematocrit were indicative of a good water and electrolyte balance, while the slight fluctuations in post-exercise creatine kinase suggested that the exercise had had a minor destructive effect on the muscle tissue. Endurance training was found to have caused an increase in the platelet and WBC counts at rest.

KEY WORDS: horses, blood, effort, long-distance races, endurance training