Investigation on performance of different age and gender using biochemical profile of horses during 120 km endurance race

ABSTRACT

Exercise-induced changes of pro-oxidant generating substances and muscle fibre damaging enzymes are the possible causes of reduced performance in endurance horses. Therefore, this study aims to investigate on the performance of different age and gender using biochemical profile of endurance horses during 120 km endurance race. One hundred and eighty four Arabian endurance horses were physically examined and blood samples were collected post-race. After physical examination, the MD (F, n= 44; G, n = 86) and SC (F, n = 20; G, n = 34) were identified. T-test and pairwise correlation were used for the analysis. There were significant differences in CK, uric acid, lactate and age ($P<0.0001$) respectively between the gender in the MD and SC. There were significant differences in AST ($P<0.0029$) and GGT ($P<0.0039$) respectively between the gender in the MD and SC. In conclusion age and gender significantly affect performance of endurance horses in relation to biochemical profile during 120 km endurance race. Therefore, further studies are required to determine if age, gender and biochemical profile could be used to assess performance in endurance horses.

Keyword: Age; Gender; Biochemical; Endurance horses; Performance