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Effect of Transportation Stress on Physical and Blood Parameters of Thoroughbred Racehorses under Malaysian Conditions

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Abstract

Twenty Thoroughbred racehorses from Perak Turf Club, which were registered to be competing in a race at Selangor Turf Club in December, 2010 were selected to study the effects of transportation stress on physical and blood parameters under Malaysian conditions. These horses travelled from Perak to Selangor Turf Club at the same time on the same day. The travelling distance was 220 km. Blood samples were taken from each horse at pre- and immediately post-transportation upon arrival at Selangor turf club. Physical examination was carried out and recorded for both pre- and post- transportation. Blood samples were evaluated for both haematological and biochemical components, which were the erythrocyte and leukocyte counts, packed cell volume, segmented neutrophil and lymphocyte counts, total protein, creatine kinase, glucose, lactate as well as cortisol. In this study, significant changes in most blood parameters and physical parameters indicates that travelling horses or road transportation induced some physiological responses in horses. Physiological parameters such as the rectal temperature, heart rate, respiratory rate and skin recoil differ as compared from pre- and post-transportation. These indicate changes of physical response due to effect of transportation stress. Blood parameters such as lactate, glucose, cortisol, leukocyte count, plasma protein, haemoglobin, and erythrocyte counts increased significantly. Ambient temperature and relative humidity were recorded throughout the travelling process. However, there was no significant change in both climatic factors in the horse float.

Keywords: Thoroughbred racehorses, transportation, stress