

CHANGES IN SOME ACUTE PHASE RESPONSE PARAMETERS AFTER PHYSICAL EXERCISE IN HORSES WITH BOOSTER VACCINATION AGAINST EQUINE HERPES VIRUS 4/1 AND EQUINE INFLUENZA VIRUS

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Abstract. The purpose of the present study was to investigate the effect of physical exercise on acute phase response in horses, vaccinated against equine herpes virus 4/1 and equine influenza virus through easily available and efficient equine pathology biomarkers such as haptoglobin, fibrinogen and erythrocyte sedimentation rate (ESR).

Fifteen healthy Hanoverian stallions, 4 to 9 years of age were divided into three groups – group A – control, including 3 non-vaccinated horses; group B – consisting of 6 revaccinated horses and group C – 6 revaccinated horses submitted to physical exercise (barrier jumping for 4 consecutive days, beginning from post revaccination day 14).

Blood plasma haptoglobin concentrations were assayed by the patented method of ReactivLab (Glasgow, Scotland). Plasma fibrinogen was assayed with a commercial Hemostat Fibrinogen coagulation kit. ESR was determined by the method of Westergren.

The results demonstrated variable effects of physical exercise on the studied blood parameters. It lowered ESR on hour 0 and did not influence blood plasma haptoglobin throughout the experimental period. After one day, physical exercise produced a state accompanied by increased blood fibrinogen (within the reference range) and accelerated ESR.

The combination of ESR and blood fibrinogen levels could be useful for evaluation of physical exercise severity in horses during training and parcourt competitions indicating an occurring disease activity in revaccinated animals.

Keywords: acute phase response, equine vaccination, exercise influence