THE EFFECT OF LASER ACUPUNCTURE ON HEART RATE, RESPIRATION RATE, AND BLOOD LACTIC ACID CONCENTRATION OF INDONESIAN THOROUGHBRED HORSE

Resnu Caesia Retorika Galunggung

ABSTRACT

The purpose of present study was to investigate the effect of laser acupuncture on horse’s acupoints: Zusanli (ST 36), Sanyinjiao (SP 6), Neiguan (PC 6), Fei Shu (BL 13), and Xin Shu (BL 15) on heart rate, respiration rate, and blood lactic acid concentration before and after exercise. Eight Indonesian Thoroughbred horses (G3 and G4) were used both as control group (P0) and laser acupuncture group (P1) with a condition, 5 days resting period were given to dispelled the after effect of exercise. Each subject undergoes a standardized field exercise test consisted of walks, trot, canter and jump that lasts for 45 minutes in total. Heart rate (HR) and respiration rate (RR) was measured at four points of time: before exercise, and at the 5th, 30th and 60th minutes after exercise, respectively. Blood lactic acid (LA) was measured before exercise, and at the 5th and 30th minutes after exercise. The paired sample T-test was performed using SPSS 20 for windows to process the data. The results showed that laser acupuncture group significantly has lower respiration rates at 60th minutes after exercise and lower blood lactic acid concentration at 30th minutes after exercise (p<0.05) compared to the control group. Laser acupuncture has no significant effect on heart rates at any time of period (p>0.05).

Keywords: Laser acupuncture, heart rate, respiration rate, blood lactic acid, horse.