

CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

CONCENTRATIONS OF BLOOD GLUCOSE AND CHOLESTEROL OF DOGS WITH OVERWEIGHT IN PHYSICAL ACTIVITY

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The objective of the study was to evaluate the effect of physical activity on health improvement measuring glucose and cholesterol concentrations of overweight animals. The animals used in this study belonged to the Animal Care and Rescue Association (ARCA), located in the city of Janaúba / MG. The dogs were neutered, and were separated by sex (six males and five females) and body condition score, which ranged from one (undernourished) to nine (overweight). 5 mL of blood were collected for determination of blood glucose and cholesterol concentrations. The animals were submitted to different physical activities daily, for 45 days, using environmental enrichment with toys made with recyclable material and active feeding, in order to stimulate some developed activities. The statistical method applied for analysis was the t test for paired data. After 45 days of physical activity, there was a significant reduction in mean cholesterol and glucose levels of the dogs. In females, there was a reduction of 25.31% in glucose levels, whereas in males this reduction was 22.22%. However, the decrease in cholesterol levels in males was higher (27%) than in females (25%). This reduction in cholesterol levels is beneficial because it prevents the development of some health problems such as ophthalmopathies and pancreatitis. Indirectly, this also reflects on benefits regarding glucose concentration. The accumulation of excess fat causes a pro-inflammatory process that is associated with the expansion of adipose tissue. This causes the release of cytokines by the body, signaling an inflammatory condition for other tissues such as liver. This compromises the regulation of glucose levels due to an impairment in insulin control function. Females may have lower cholesterol losses because of the trend in weight gain (due to reduction of hormones after castration) and exchange of muscle mass for adipose tissue causing high fat mobilization. However, the fact that the level of glucose in females is lower may indicate less stress in this category during blood collection, since stress influences this factor. Thus, physical activity and stimulus to exercise through environmental enrichment for 45 days reduced the blood glucose and cholesterol levels of overweight dogs.

Keywords: animal health, environmental enrichment, pets

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