P16) EFFECT OF AN ENERGY RESTRICTED DIET IN WEIGHT LOSS AND HAPTOGLOBIN CONCENTRATION IN BEAGLE DOGS

Ricci, R.[1], Jeusette, I.[2], Godeau, J-M.[3], Diez, M.[3]

[1]University of Padova, Padova, Italy; [2]Affinity Petcare, Barcelona, Spain; [3]University of Liège, Liège, Belgium

Obesity promotes a low-grade inflammatory state in humans and obese dogs have showed decreased inflammatory markers when submitted to weight loss. This study investigated the effect of two levels of short chain-frucrooligosaccharides (sc-FOS) included in an energy-restricted diet on weight loss, biochemical parameters and serum haptoglobin concentration in experimental dogs enrolled in a weight loss program (WLP). Dietary supplement of sc-FOS has already been shown effective in lowering the post-prandial glucose, urea and triglycerides concentration in healthy dogs and in decreasing insulin resistance in obese ones.

Twelve obese Beagle dogs were randomized into two groups and submitted to a WLP with a dry energy-restricted diet (as fed: 34% crude protein, 9.5% fat and 12.0 kJ ME/g). Control group (C) received 1% DM sc-FOS, as included in the diet by the manufacturer, whereas test group (T) received 3% DM. Body weight, BCS and blood collection were carried out before and after treatment and monthly to measure total plasma cholesterol, triglycerides, free fatty acids, glucose and insulin; serum leptin and haptoglobin were measured only before and after WLP.

The two groups showed no differences in BW and blood parameters before treatment. When values before and after treatment were compared, significant reductions were observed for all parameters with the exception of FFA and glucose. However, when these reductions were compared between C and T groups, significant differences were detected only for haptoglobin (T before *vs* T after: 1545 *vs* 605 mg/L, $P=0.03$; C before *vs* C after: 1635 *vs* 1400 mg/L, P=n.s.). Moreover, positive correlations between haptoglobin and cholesterol, triglycerides and glucose were observed before WLP.

Results suggest that excess body fat in dogs may trigger an inflammatory condition which is strictly associated to the raise of obesity-related biochemical parameters; however, it ameliorates when 3% DM sc-FOS is included in the energy-restricted diet.