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### Hypercholesterolaemia in Older Cats is Not Associated with Haptoglobin and Serum Amyloid A Concentration

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Obesity and different metabolic disorders in dogs and cats are characterized with hypercholesterolaemia. In humans, it has been postulated that hypercholesterolaemia promotes inflammatory response. The aim of this study was to determine feline lipid profile (cholesterol, triglyceride, high-density lipoprotein [HDL] cholesterol, low-density lipoprotein [LDL] cholesterol) and to test the hypothesis that hypercholesterolemia in cats is associated with increased values of inflammatory serum biomarkers. For that, the serum concentration of haptoglobin (Hp) and serum amyloid A (SAA) were determined in 30 clinically healthy cats of both genders and 1.5 to 13 years old. Cats were assigned into groups according to cholesterol concentration (ChC): mild hypercholesterolaemia group (n = 12) had ChC in range 4.22–6.44 mmol/l (average 5.25 mmol/l), and control group (n = 18) had ChC in range 1.48–4.12 mmol/l (average 3.21 mmol/l). ChC, triglycerides, and HDL and LDL concentration were measured using spectrophotometry. The Hp concentration was measured via haemoglobin binding assay modified for automation on an ABX Pentra analyser (HORIBA Medical, Montpellier, France). SAA concentration was determined using LAT (Eiken Chemical Co., Japan) modified for automation on ABX Pentra analyser. In the hypercholesterolaemia group, Hp ranged from 0.09–6.67 mg/l (average 2.49 g/l) and SAA ranged from 0–84.7 mg/l (average 13.70 mg/l), and these values were not significantly different compared to the control group having Hp ranged from 0.58–10.99 g/l (average 3.54 g/l) and SAA ranged from 0–338.9 mg/l (average 58.09 g/l). Increased ChC was positively associated with age (r = 0.41, p < 0.003), triglyceride (r = 0.52, p < 0.001), HDL (r = 0.63, p < 0.001) and LDL (r = 0.82, p < 0.001) concentration, but not to the animal's weight, lifestyle (indoor/outdoor) and gender. Although increased ChC was due to both, increased HDL and LDL cholesterol, LDL cholesterol increased, more importantly, lowering the HDL/LDL ratio. From all data presented, it could be concluded that mild hypercholesterolaemia 1) is more frequent among older cats and 2) is not associated with Hp and/or SAA concentration and that inflammation is not a possible cause/consequence of altered lipid status in older cats.

#### DISCLOSURES

No disclosures to report.

#### SPEAKER INFORMATION

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