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A MULTICENTER CLINICAL STUDY TO EVALUATE THE EFFECT OF A SPECIALLY FORMULATED FOOD ON OSTEOARTHRITIS IN CATS

D. Fritsch¹, A. Sparkes², T. Allen¹, K. Hahn¹

¹Hill's Pet Nutrition, Inc. ²Animal Health Trust

Comunicación

Objectives of the study

Radiographic evidence of osteoarthritis is present in around 20% of the total adult feline population, and changes are much more prevalent in older cats, with around 65% of cats over 12 years of age being affected. In other species, the role of diet is well established in the management of osteoarthritis. In addition to chondroprotectants and cartilage precursors (which can be supplied in the diet as well as being given as supplements), essential fatty acids have been shown to have an important impact on joint inflammation and cartilage degradation, and anti-oxidants may also contribute minimising the impact of osteoarthritis. The objective was to assess the effect of a Test food containing a high concentration of omega-3 (n-3) fatty acid, a low n-6:n-3 ratio, and increased level of manganese and methionine on clinical signs of osteoarthritis in cats.

Material and Methods

This was a randomized, doubleblinded, controlled prospective clinical study of 172 client-owned cats with a naturally-occurring, radiographic diagnosis of osteoarthritis in one or more joints. Cats were randomly assigned to receive either a Test food that contained a 3.5-fold increase in total n-3 concentration, a 3.5-fold decrease in n-6:n-3 ratio, 2.5-fold increase in manganese, and 1.5-fold increase in methionine compared to a control food (dry matter basis). Neither cat owners nor clinical veterinarians knew which food cats were fed. Cat owners completed a questionnaire which provided detailed information about their cat's arthritic condition and veterinarians performed a physical examination and collected samples for CBC, and serum biochemistry at the onset of the study. All assessments were repeated at 4, 8, and 12 weeks.

Results

In cats with moderate to severe symptoms of osteoarthritis fed the Test food, veterinarians noted a significant improvement in overall arthritic condition within 4 weeks (61%) compared to those cats fed the control food (37%) and pet owners noted a significant improvement in overall mobility (e.g., walking, climbing stairs, balance, agility) within 12 weeks compared to cats fed the control food. Mild arthritic cats responded less favorably to the dietary therapies when compared to moderate or severe arthritic cats based on veterinary orthopedic evaluations and pet owner assessments of overall arthritic condition.

Conclusions

Feeding a food with a high concentration of omega 3 fatty acid, a low omega-3:omega-6 ratio, and increased levels of methionine and manganese improves the clinical signs of osteoarthritis in cats.

Bibliography

- 1. Clarke, S. P., Bennett, D. (2006) Feline osteoarthritis: a prospective study of 28 cases. J Small Anim Pract. 47:439-445
- 2. Clarke, S. P., Mellor, D., Clements, D. N., Gemmill, T., Farrell, M., Carmichael, S., Bennett, D. (2005) Prevalence of radiographic signs of

- degenerative joint disease in a hospital population of cats. Veterinary Record 157:793-799
- 3. Godfrey, D. R. (2005) Osteoarthritis in cats: a retrospective radiological study. J Small Anim Pract 46:425-429
- 4. Hardie, E. M., Roe, S. C., Martin, F. R. (2002) Radiographic evidence of degenerative joint disease in geriatric cats: 100 cases (1994-1997). J Am Vet Med Assoc 220:628-632
- 5. Henrotin Y.E., Bruckner, P., and Pujol, J.P. (2003) The role of reactive oxygen species in homeostasis and degradation of cartilage. Osteo Arthritis and Cartilage, 11, 747-755.
- 6. Manek, N.J., Lane, N.E. (2000) Osteoarthritis: current concepts in diagnosis and management. Am Fam Physician. 61:1795-1804
- 7. Scarlett, J.M., Donoghue, S. (1998) Associations between body condition and disease in cats. J Am Vet Med Assoc 212:1725-31
- 8. Schiller, J., Benard, S., Reichl, S., Arnhold, J., and Arnold, K. (2000) Cartilage degradation by stimulated human neutrophils: reactive oxygen species decrease markedly the activity of proteolytic enzymes. Chemistry & Biology, 7, 557-568
- 9. Tiku, M.L., Gupta, S., and Deshmukh, D. R., (1999) Aggrecan Degradation in Chondrocytes is Mediated by Reactive Oxygen Species and Protected by Antioxidants. Free Radical Research, 30, 395-405.
- 10. Yamka, R.M., Friesen, K.G., Lowry, S.R., Coffman, L. (2006) Measurement of arthritic and bone serum metabolites in arthritic, non-arthritic, and geriatric cats fed wellness foods. Intern J Appl Res Vet Med 4:265-273

