IMPROVEMENT OF CLINICAL SIGNS OF OSTEOARTHRITIS IN CATS BY DIETARY INTERVENTION

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Fish oil as a source of omega-3 (n-3) fatty acids (FA) has been implicated in reducing inflammation and pain in mammals. Certain n-3 fatty acids have been shown to reduce the expression and activity of proteoglycan-degrading enzymes, thereby have the potential to stop the progression of osteoarthritis. The objective of this study was to determine the safety and efficacy of two formulas of an experimental food (dry: 3.2 g n-3 FA/1000 kcal, n-6:n-3 FA ratio: 2.6, 3.6 g methionine, 27 mg manganese/1000 kcal; canned: 2.6 g n-3 FA/1000 kcal, n-6:n-3 FA ratio: 3.9, 3.0 g methionine, 30 mg manganese/1000 kcal) as an aid in the management of the clinical signs associated with feline osteoarthritis. The two foods were tested in a randomized, double-blind, controlled clinical trial. Client owned cats (n=172; mean age=12 y) with clinical signs and radiographic changes consistent with osteoarthritis were assigned to receive either one of the experimental foods or one of the two formulas of the control food (dry: 0.9 g n-3 FA/1000 kcal, n-6:n-3 FA ratio: 9.7, 2.4 g methionine, 11 mg manganese/1000 kcal; canned: 0.8 g n-3 FA/1000 kcal, n-6:n-3 FA ratio: 14.4, 2.4 g methionine, 11 mg manganese/1000 kcal)for 12 weeks. The cats were evaluated at 0, 4, 8, and 12 weeks of feeding. Clinical signs were evaluated by owners in form of questionnaires that contained multiple descriptors of mobility and behavioral changes. Cat owners were asked to observe and record the frequency and severity of the clinical signs. A feline-appropriate veterinary orthopedic evaluation form was used by the veterinarians who assessed lameness, joint swelling, range of motion and pain on palpation for each affected joint. An overall arthritis score was calculated. In addition, at each visit, the veterinarians assessed the arthritis severity.

Based on the veterinarians' evaluation, of the cats presenting with moderate or severe arthritis, a significantly higher proportion fed the experimental food (61%) showed improved arthritic conditions within four weeks compared to the control food (37%). Cats presenting with mild arthritis signs at the start of the study responded less favorably to the dietary therapies when compared to the moderate or severe arthritic cats based on veterinary orthopedic evaluations and pet owner assessment of overall arthritic condition. After 12 weeks of feeding, cats in both food groups showed improvements in their arthritic condition, indicating that both foods were efficacious. Pet owners observed significant improvements in frequency and severity of clinical signs after 12 weeks of feeding in both treatment groups. Given that cats presenting with moderate or severe arthritis responded positively and more rapidly to the experimental food than to the control food within 4 weeks, the role of n-3 fatty acids, methionine and manganese in the management of cats with arthritic signs requires further investigation.