

Abstract

Journal of the American Veterinary Medical Association

January 1, 2010, Vol. 236, No. 1, Pages 59-66

doi:10.2460/javma.236.1.59

Multicenter veterinary practice assessment of the effects of omega-3 fatty acids on osteoarthritis in dogs

James K. Roush, DVM, MS, DACVS; Chadwick E. Dodd, DVM; Dale A. Fritsch, MS; Timothy A. Allen, DVM, DACVIM; Dennis E. Jewell, PhD, DACAN; William D. Schoenherr, PhD; Daniel C. Richardson, DVM, DACVS; Phillip S. Leventhal, PhD; Kevin A. Hahn, DVM, PhD, DACVIM
Department of Clinical Sciences, College of Veterinary Medicine, Kansas State University, Manhattan, KS 66506. (Roush); Pet Nutrition Center, Hill's Pet Nutrition Inc, PO Box 1658, Topeka, KS 66601. (Dodd, Fritsch, Allen, Jewell, Schoenherr, Richardson, Hahn); 4Clinics, 8 rue de la Terrasse, 75017 Paris, France. (Leventhal)

Objective—To assess the effect of food containing high concentrations of fish oil omega-3 fatty acids and a low omega-6–omega-3 fatty acid ratio on clinical signs of osteoarthritis in dogs.

Design—Randomized, double-blinded, controlled clinical trial.

Animals—127 client-owned dogs with osteoarthritis in 1 or more joints from 18 privately owned veterinary clinics.

Procedures—Dogs were randomly assigned to be fed for 6 months with a typical commercial food or a test food containing a 31-fold increase in total omega-3 fatty acid content and a 34-fold decrease in omega-6–omega-3 ratio, compared with the control food. Dog owners completed a questionnaire about their dog's arthritic condition, and investigators performed a physical examination and collected samples for a CBC and serum biochemical analyses (including measurement of fatty acids concentration) at the onset of the study and at 6, 12, and 24 weeks afterward.

Results—Dogs fed the test food had a significantly higher serum concentration of total omega-3 fatty acids and a significantly lower serum concentration of arachidonic acid at 6, 12, and 24 weeks. According to owners, dogs fed the test food had a significantly improved ability to rise from a resting position and play at 6 weeks and improved ability to walk at 12 and 24 weeks, compared with control dogs.

Conclusions and Clinical Relevance—Ingestion of the test food raised blood concentrations of omega-3 fatty acids and appeared to improve the arthritic condition in pet dogs with osteoarthritis.

Supported by Hill's Pet Nutrition.

The authors thank Bruce Novotny for assistance in manuscript preparation; Joe Greil, Dinesh Joshi, and Drs. Kristin Sixby and Heather Biele for technical assistance; and Drs. Stephen R. Lowry and John Brejda for statistical analysis and interpretation.

Address correspondence to Dr. Hahn (kevin_hahn@hillspet.com).