Omega-3 fatty acids in Boxer dogs with arrhythmogenic right ventricular cardiomyopathy.

Smith CE, Freeman LM, Rush JE, Cunningham SM, Biourge V.

Department of Clinical Sciences, Cummings School of Veterinary Medicine, Tufts University, 200 Westboro Road, North Grafton, MA 01536, USA.

BACKGROUND: Omega-3 fatty acids have been shown to reduce arrhythmia in animal models and people. These effects have not been studied in dogs with spontaneously occurring arrhythmia.

HYPOTHESIS: Fish oil will reduce the frequency of ventricular arrhythmia in Boxer dogs with arrhythmogenic right ventricular cardiomyopathy (ARVC). ANIMALS: Twenty-four Boxers with ARVC were included in this study. METHODS: Asymptomatic Boxers not receiving antiarrhythmic medications were evaluated with echocardiogram and electrocardiogram. Dogs with at least 1 ventricular premature contraction (VPC) received 24-hour ambulatory electrocardiography (AECG) recordings. Dogs with > 95 VPCs in 24 hours were randomized to 1 of 3 treatments: (1) Fish oil, 2 g; (2) Flax oil, 2 g; or (3) sunflower oil, 2 g (Control group), for 6 weeks. Investigators and owners were blinded to the treatment groups. All baseline measurements were repeated after the 6-week supplementation. RESULTS: There were no differences at baseline for age, sex, blood pressure, weight, echocardiographic measurements, or VPCs. Median number of VPCs in 24 hours for all dogs was 543 (range, 96-40,063) at baseline and 193 (range, 6-14,825) after 6 weeks of supplementation. VPCs/24 h were reduced for the Fish oil group (baseline median = 397 [range, 249-10,587]; 6-week median = 162 [range, 16-3,781]; P = .02), but not for the Flax oil (P = .58) or Control (P = .48) groups. CONCLUSIONS AND CLINICAL IMPORTANCE: These data suggest that fish oil, but not flax oil, supplementation for 6 weeks reduces arrhythmia in Boxers with ARVC and that it could be useful in treating this common disease. Further studies are needed to determine optimal dose and duration of treatment.

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