

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

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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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