

ABSTRACT

A Pilot Study of the Effect of Omega-3 Fatty Acids on Heart Rate Variability in Anxiety Disorders.

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Neuropsychopharmacology, 2005.

Background: There is evidence of an effect for omega-3 fatty acids (O3FA) in major depression and for comparable mood stabilizing properties in bipolar disorder. Recognizing the substantial overlap between symptoms of depression and anxiety and high rates of comorbidity between these disorders, it is possible that O3FA may have a role in treating anxiety. A potential role for O3FA in anxiety is suggested by animal data. One mechanism for the activity of O3FA may be through modulation of autonomic balance, as evidenced by improvement in heart rate variability (HRV), which has been found to be impaired in anxiety. Treatment with O3FA can increase HRV in survivors of myocardial infarction. The purpose of this study was to 1) collect pilot data on the effect of O3FA in patients with clinically significant anxiety disorders; and 2) to evaluate the effect of O3FA on heart rate variability in this population.

Methods: Adult outpatients age 18-60 with a primary DSM-IV anxiety disorder and a clinically significant level of symptoms were entered into the trial. Subjects with a history of cardiovascular disease, hypertension, or diabetes and those taking psychotropic medications or O3FA supplements were excluded. Eligible subjects received 8 weeks of open label treatment with an O3FA supplement (2100 mg EPA; 1500 mg DHA) daily. Baseline and post treatment assessments included measures of anxiety, depression, resilience, general psychopathology, global improvement, heart rate variability, and side effects. Treatment response was evaluated by the pre to post-treatment change in the Hospital Anxiety and Depression Scale (HADS) anxiety subscale score and was analyzed using a Wilcoxon Signed Rank Test. The effect of treatment on autonomic indices (HRV, baroreflex sensitivity, blood pressure, heart rate) and on affective variables of interest were compared using repeated measures ANOVA. Pre to post treatment changes in other measures were evaluated as secondary outcomes.

Results: 25 subjects were enrolled, 24 of whom returned for at least one post-baseline assessment. Subjects were predominantly females with either generalized anxiety disorder or social anxiety disorder. Significant improvement was observed on measures all clinical and self ratings ($p < .05$). However, no changes were found on autonomic indices. The treatment was well tolerated.

Discussion: Adults treated with O3FA supplements for 8 weeks demonstrate significant improvement in anxiety, depressive symptoms, general psychopathology, and stress coping. The mechanism by which this occurs does not appear to be through improvement in autonomic tone. Nonetheless, further controlled trials of fatty supplements in anxiety disorders are needed.

Source: *Neuropsychopharmacology*; 2005.