

Abstract

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Do omega-6 and trans Fatty acids play a role in complex regional pain syndrome? A pilot study.

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OBJECTIVES: The study aims to compare the omega-6 (n-6) and omega-3 (n-3) highly unsaturated fatty acids (HUFA), and trans fatty acid (trans FA) status of Complex Regional Pain Syndrome (CRPS) patients to pain-free controls.

DESIGN: Case control study.

SETTING: The setting was at a multidisciplinary rehabilitation center.

PATIENTS: Twenty patients that met the Budapest research diagnostic criteria for CRPS and 15 pain-free control subjects were included in this study.

OUTCOME MEASURES: Fasting plasma fatty acids were collected from all participants. In CRPS patients, pain was assessed using the McGill Pain Questionnaire-Short Form. In addition, results from the perceived disability (Pain Disability Index), pain-related anxiety (Pain Anxiety Symptom Scale Short Form), depression (Center for Epidemiologic Studies Depression Scale Short Form), and quality of life (Short Form-36 [SF-36]) were evaluated.

RESULTS: Compared with controls, CRPS patients demonstrated elevated concentrations of n-6 HUFA and trans FA. No differences in n-3 HUFA concentrations were observed. Plasma concentrations of the n-6 HUFA docosatetraenoic acid were inversely correlated with the "vitality" section of the SF-36. Trans FA concentrations positively correlated with pain-related disability and anxiety.

CONCLUSION: These pilot data suggest that elevated n-6 HUFA and trans FA may play a role in CRPS pathogenesis. These findings should be replicated, and more research is needed to explore the clinical significance of low n-6 and trans FA diets with or without concurrent n-3 HUFA supplementation, for the management of CRPS.

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