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Inflammation in Psoriatic Arthritis: The DIETA trial – Dietetic IntervEntion in psoriaTic Arthritis

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Abstract

The oxidative stress has been considered one of the main aspects related to psoriatic arthritis (PsA), diabetes, hypertension, obesity, dyslipidemia and metabolic syndrome. Based in the premise that there is a close relationship between the metabolic and inflammatory domain in PsA patients, our aim was to evaluate the role of a 12-week nutritional intervention, including hypocaloric diet and anti-oxidant supplementation, on inflammatory markers and disease activity in patients with PsA.

A total of 97 patients diagnosed with PsA (CASPAR, 2006) were included in this randomized, double-blinded placebo-controlled trial. Patients were distributed in three different groups: control (C) that received placebo (3 g of soybean oil); diet plus supplementation (DS) with hypocaloric diet plus omega 3 supplementation (3g); diet (D) with hypocaloric diet plus placebo supplementation (3 g of soybean oil). It was evaluated skin (PASI and BSA) and joint activity (DAS28-CRP, DAS28-ESR, BASDAI) and biochemical parameters, such as inflammatory markers (CRP, ESR, adiponectin, TBARs) and glucose and fat metabolism serum levels (HbA1c, fasting glucose and insulin, total cholesterol and fractions, triglycerides, AGER, oxidized- LDL, electronegative LDL (-) and anti-LDL (-) autoantibody) at baseline (T0) and after 12-week intervention (T3). Descriptive statistics are expressed as mean, standard deviation and frequency. Results were then compared using Kruskal-Wallis, ANOVA, Wilcoxon, Man-Whitney and T-Student test and multiple regressions. Level of significance was set as $p < 0.05$.

At baseline there was an increase of inflammatory markers (CRP, ESR, TBARs, AGER, LDL modifications), decrease of anti-inflammatory (adiponectin) and high prevalence of hypercholesterolemia (41.2%) and peripheral insulin resistance (60%). Our data showed a significant correlation between electronegative LDL and PASI and a correlation between AGER and DAS28-ESR, indicating that a decrease of inflammatory parameters could be related to skin and joint improvement. However, after 12-week nutritional intervention there has no improvement of proinflammatory markers in the group. There was only a significant increase of adiponectin serum levels in all 3 groups, suggesting a benefit effect on chronic inflammation. According our results, omega 3 supplementation was not more effective to improve inflammation, oxidative stress and disease activity.

Conflict of Interest

There is no conflict of interest