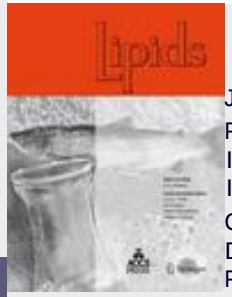
Journal Article



Supplementation with evening primrose oil in atopic dermatitis: Effect on fatty acids in neutrophils and epidermis

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Abstract We investigated the effect of oral supplementation with evening primrose oil, containing 72% linoleic acid (18 : 2n–6) and 10% γ-

linolenic acid (18∶3n–6), on the epidermal and neutrophil phospholipid fatty acid composition in 15 patients with atopic dermatitis (AD). Three different dose levels, 4, 8 and 12 capsules per day containing 0.5 g oil, were given to three groups of patients. The only n–6 fatty acid showing a significant ($p<0.05$) dose-related increase was dihomo-γ-linolenic acid (20∶3n–6) in neutrophil phospholipids. The highest dose increased dihomo-γ-linolenic acid by 45% in neutrophil phospholipids, by 46% in lesion-free epidermal phosphatidylcholine, and by 15% in lesion-free epidermal phosphatidylethanolamine. In both lesional and lesion-free epidermis, supplementation resulted in a rise in the ratio between n–6 and monounsaturated fatty acids, reaching significance ($p<0.05$) in lesional epidermis. This study shows that moderate and favorable fatty acid changes can be obtained in the epidermis of AD patients, when given 6 g per day of oil rich in n–6 fatty acids. The abnormal lipid and fatty acid pattern of the atopic epidermis may be involved in the pathogenesis of the disease, and should therefore be the target for future therapeutic approaches with fatty acid supplements.

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