Acta Derm Venereol (Stockh) 1989; Suppl 144: 139

The Effect of Eicosapentaenoic Acid in the Treatment of Atopic Dermatitis. A Clinical Study

E. SØYLAND,[1] G. RAJKA,[1] A. BJØRNEBOE,[2] G. E. BJØRNEBOE,[2] and C. A. DREVON[2]

[1]*Department of Dermatology, Rikshospitalet, Oslo and*
[2]*National Institute of Forensic Toxicology, Oslo, Norway*

There are two families of essential fatty acids, n-6 and n-3. Manipulation of dietary fatty acids in patients with atopic dermatitis (AD) have been restricted to the n-6 fatty acids. Leukotriene B4, a potent chemotactic agent derived from arachidonic acid (n-6), has been found increased in involved epidermis of AD (1).

Eicosapentaenoic acid (n-3) seems to substitute the arachidonic acid by competitive inhibition. We get leukotriene B5 which only possesses 3–12% of the biological activity of LTB4.

METHODS

31 patients with atopic dermatitis entered a 12-week double-blind block randomized trial. All patients were moderately or severely affected (2). Both the patients and the physician evaluated their symptoms on a scale from 0 to 10. Compliance was investigated by measuring the serum concentrations of phospholipids before and after the trial. The experimental group showed a significant elevation of n-3 fatty acids. The experimental group received 10 g of fish oil daily, of which about 1.8 g was eicosapentaenoic acid. The control group received 10 placebo (olive oil) capsules daily.

RESULTS

Patients' assessments showed that the fish oil (Max-Epa) was superior to placebo with regard to itch ($p<0.05$) and scaling ($p<0.05$). The total patients' symptom score showed greater improvement in the experimental groups as compared to the controls ($p<0.02$). The scores assessed by the physician showed no statistically significant difference between the groups. However, the total clinical scores evaluated by the physician was 30% higher in the experimental group than in the control group.

The amount of eicosapentaenoic acid consumed by the patients in the experimental group was not more than can be obtained from daily intake of fat fish. The beneficial effect of dietary n-3 fatty acids in the treatment of atopic dermatitis should be tested more extensively, using larger doses for a longer time.

REFERENCES

1. Ruzicka T, Simmet T, Peskar BA, Braun-Falco O. Leukotrienes in the skin of atopic dermatitis. Lancet 1984: 1: 222.
2. Hanifin JM, Rajka G. Diagnostic features of atopic dermatitis. Acta Derm Venereol (Stockh) (Suppl) 1980: 92: 44.

Hudavdelningen
Rikshospitalet
Pilestredet 32
0027 Oslo 1
Norge