

Fish oil could reduce inflammation, finds study

25/03/2008- **Daily intake of essential fatty acids could help reduce the need for painkillers in patients suffering from rheumatoid arthritis (RA), according to a new study.**

Published in the journal *Rheumatology*, the free-access study found that a daily 10g intake of cod liver oil was associated with a 30 per cent reduction in the use of non-steroidal anti-inflammatory drugs (NSAIDs).

The findings could present a new market opportunity for essential fatty acids, especially in light of mounting concerns about the adverse effects of NSAID use. Some of these drugs, which are among the most frequently prescribed medications worldwide, have been linked with gastrointestinal toxicity, increased blood pressure, and increased risk of cardiovascular disease.

The potential anti-inflammatory effects of essential fatty acids (EFAs) were first suggested by epidemiological studies in Greenland Eskimos (*Acta Med Scand* 1980;208:401-6), where fatty acid intake from seafood is high and there is lower prevalence of autoimmune and inflammatory conditions.

EPA, DHA

The new study, which was funded by fish-oil supplement manufacturer Seven Seas, found that RA patients taking oral supplements of 2.2g a day of EPA and DHA fatty acids (as contained in 10g cod liver oil), were able to reduce their intake of NSAIDs by more than a third, without worsening their disease symptoms.

Researchers from the University of Dundee, UK, carried out the randomized, double-blind placebo-controlled study on 97 RA patients between 1997 and 2002.

The patients were aged 37 to 78. There were 69 females and 28 males. The patients were either given Seven Seas cod liver oil capsules or air-filled placebo capsules to take during nine months.

The researchers documented NSAID daily requirement, clinical and laboratory parameters of RA disease activity and safety checks at 0, 4, 12, 24 and 36 weeks.

Compliance was assessed by counting the total number of returned capsules and by measuring EPA levels in plasma at baseline and after 3 and 9 months.

Safety was assessed by routine laboratory tests and patients were asked to report any adverse events encountered.

Fifty-eight patients completed the study (60 per cent of total) - 32 from the cod liver oil group, and 26 from the placebo group.

Nineteen out of the 32 patients in the active group (59 per cent) and five out of the 26 patients in the placebo group (19 per cent) were able to reduce their daily NSAID requirement by 30 per cent at nine months.

No differences between the groups were observed in the clinical parameters of RA disease activity or in the side-effects observed (which consisted of nausea, vomiting, diarrhea and flatulence).

The authors concluded that *"fish oil supplementation should be considered in RA patients to help them reduce their NSAID intake in order to attenuate the risks of gastrointestinal and cardiovascular adverse events associated with these drugs"*.

Previous studies

The anti-inflammatory potential of essential fatty acids has been documented in previous studies.

An increased intake of fish oil over vegetable oil was last year found to help reduce the inflammation of various tissue and organs. The study in the *Journal of Biological Chemistry*, reported that omega-3 fish oil has a greater effect of decreasing the formulation of chemicals called prostanoids than the equivalent from vegetable oil. Prostanoids, when produced in excess, increase inflammation in various tissues and organs.

In addition, researchers from Australia's RMIT University and SGE International Pty Ltd, also reported last year that omega-3 polyunsaturated fatty acids extracts from the green-lipped mussel (*Perna canaliculus*) inhibited leukotriene and cyclo-oxygenase (COX) activity, both of which are involved in the inflammatory process.

And an animal study, published in 2006 in the journal *Life Sciences*, found that a low-calorie diet, rich in fish oil could reduce the markers of inflammation by as much as 90 per cent.