

Omega-3 Fatty Acids Infusions as Adjuvant Therapy in Rheumatoid Arthritis

Journal of Parenteral and Enteral Nutrition
March-April, 2010, Vol. 34, No. 2, pp. 151-155

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FROM ABSTRACT:

Background: The present study investigated the efficacy and safety of parenteral [fed through a vein, not through the gut] omega-3 fatty acids (n-3 FA) in patients with active rheumatoid arthritis (RA).

Methods: We performed a double-blind, randomized, placebo-controlled study in 23 patients with moderate to severe RA.

Patients received either 200 mg of fish oil emulsion/kg (active) or 0.9% saline (placebo) infusion intravenously for 14 consecutive days, followed by 20 weeks of 5 mg of fish oil/kg (active) or paraffin wax (placebo) ingested orally as capsules.

[1 lb. = .4536 kg

200 lb. = 90 kg.

200 mg fish oil X 90 kg = 18,000 mg (18 g) of fish oil

5 mg fish oil X 90 kg = 450 mg of fish oil]

[Also, remember fish oil contains 30% to 50% EPA + DHA n-3s]

A decrease in swollen and tender joint counts was the primary efficacy measure.

Results: At baseline, both swollen and tender joint counts were not significantly different between patients in the treatment and placebo groups.

Swollen joint count was significantly lower in the n-3 FA group compared with the placebo group after 1 week of infusion as well as after 2 weeks of infusion.

Tender joint count also tended to be lower in the n-3 FA group.

Conclusion: Our pilot study indicates that parenteral n-3 FAs are well tolerated and improve clinical symptoms of RA.

Subsequent oral administration of n-3 FAs may prolong the beneficial effects of the infusion therapy.

THESE AUTHORS ALSO NOTE:

Rheumatoid arthritis (RA) is one of the most common inflammatory joint diseases.

“Approximately 60% of RA patients are unable to work 10 years after the onset of their disease.”

The drugs used to treat RA (steroids, NSAIDs) improved “symptoms of RA, but may lead to side effects such as osteoporosis, diabetes, weight gain and increased adiposity, gastric ulcer and bleeding, hepatic toxicity, renal and bone marrow damage, alveolitis, infectious diseases such as pneumonia, and even death.”

“A meta-analysis of 17 randomized, controlled trials suggested that oral n-3 FA supplementation improves patient-assessed pain, duration of morning stiffness, and number of painful and/or tender joints in patients with RA or secondary joint pain.”

Intravenous n-3 FAs are well tolerated and may be more efficient than oral administration in the treatment of RA.

In this study, all patients were put on a low-arachidonic acid diet during the infusion part and were told to lower their consumption of arachidonic acid-containing foods until the end of the study.

[Recall, arachidonic acid is the omega-6 fatty acid that is the precursor to the pro-inflammatory eicosanoid hormone prostaglandin E2 {PGE2}. Human primary source of arachidonic acid is eating meat from animals (chicken, cow, pig, fish, sheep, turkey) that have been fattened on corn and soy. Corn and soy are common animal feeds because they are heavily subsidized by the taxpayers.]

DISCUSSION

“In this randomized controlled trial, intravenous n-3 FA resulted in a statistically significant reduction of swollen joints compared with saline placebo.”

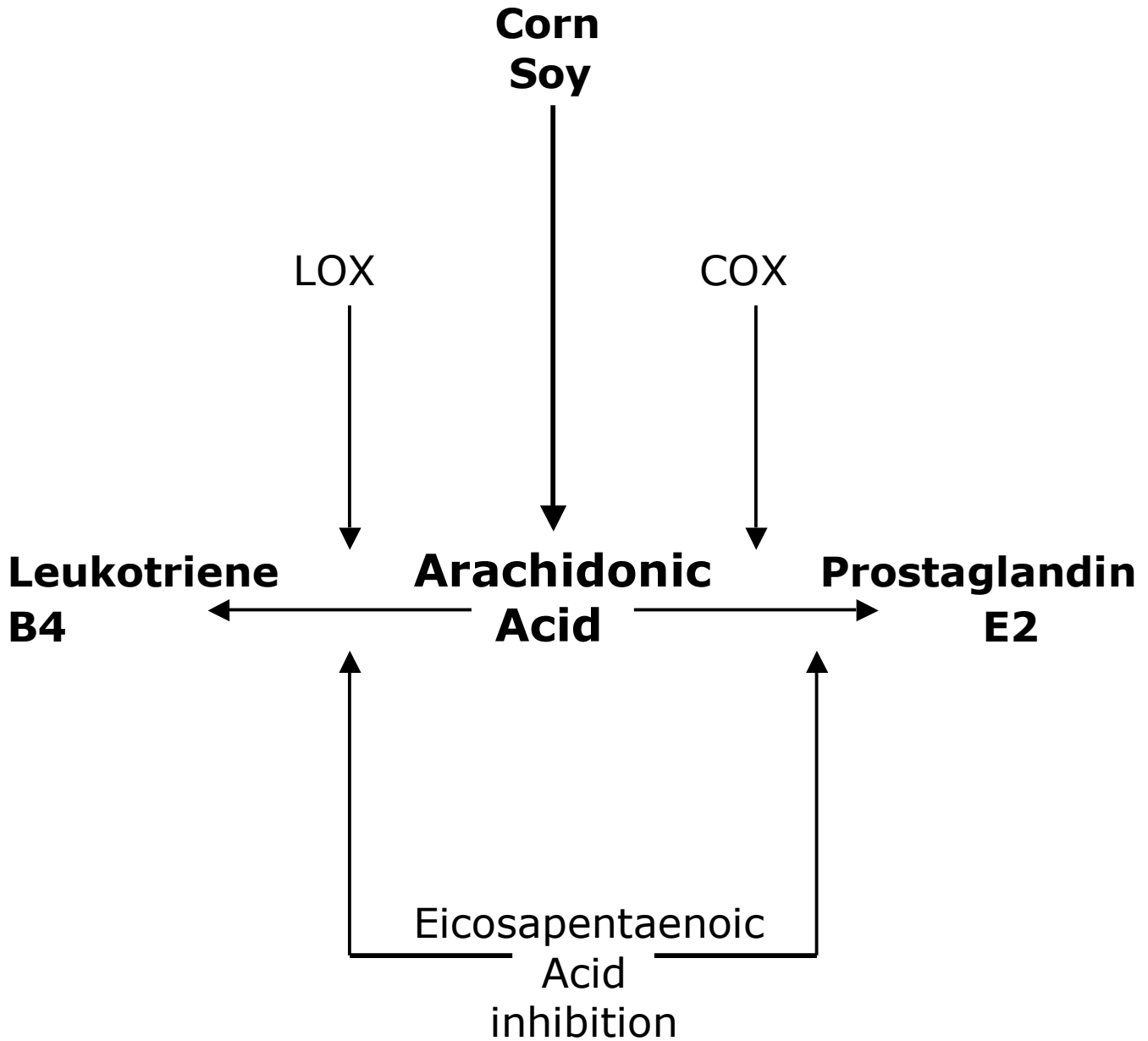
“Furthermore, fish oils have been shown to exert protective effects in cardiovascular, neurological, and inflammatory diseases, all conditions for which patients with RA are at increased risk.”

N-3 FAs probably work because they:

- 1) Are anti-inflammatory
- 2) Inhibit the arachidonic acid cascade
- 3) Inhibit the production of series-3 prostaglandins, series-5 leukotrienes, and series-3 thromboxanes
- 4) Decrease in cytokine production
- 5) Suppress the synthesis of cyclooxygenase 2 (COX-2)

In the treatment of rheumatoid arthritis, fish oil works well, is well tolerated, and eliminates the concern over side effects of NSAIDs and COX-2 inhibitors drugs.

Cyclo-oxygenase (COX)/Lipo-oxygenase (LOX) Pathways



KEY POINTS FROM DAN MURPHY

- 1) Rheumatoid arthritis (RA) is one of the most common inflammatory joint diseases.
- 2) "Approximately 60% of RA patients are unable to work 10 years after the onset of their disease."
- 3) The drugs used to treat RA (steroids, NSAIDs) improved "symptoms of RA, but may lead to side effects such as osteoporosis, diabetes, weight gain and increased adiposity, gastric ulcer and bleeding, hepatic toxicity, renal and bone marrow damage, alveolitis, infectious diseases such as pneumonia, and even death."
- 4) "A meta-analysis of 17 randomized, controlled trials suggested that oral n-3 FA supplementation improves patient-assessed pain, duration of morning stiffness, and number of painful and/or tender joints in patients with RA or secondary joint pain."
- 5) Intravenous n-3 FAs are well tolerated and may be more efficient than oral administration in the treatment of RA.
- 6) In this study, infusion of omega-3 fatty acids into the vascular system significantly reduced the incidence of swollen rheumatoid arthritis joints. The benefits were observed within 1 week of therapy, and were still present 22 weeks later.
- 7) Subsequent oral administration of omega-3 fatty acids prolongs the beneficial effects of the infusion therapy.
- 8) Patients with RA should also be put on a low-arachidonic acid diet.
[Recall, arachidonic acid is the omega-6 fatty acid that is the precursor to the pro-inflammatory eicosanoid hormone prostaglandin E2 {PGE2}. Human primary source of arachidonic acid is eating meat from animals (chicken, cow, pig, fish, sheep, turkey) that have been fattened on corn and soy. Corn and soy are common animal feeds because they are heavily subsidized by the taxpayers.]
- 9) "In this randomized controlled trial, intravenous n-3 FA resulted in a statistically significant reduction of swollen joints compared with saline placebo."
- 10) "Fish oils have been shown to exert protective effects in cardiovascular, neurological, and inflammatory diseases, all conditions for which patients with RA are at increased risk."
- 11) In the treatment of rheumatoid arthritis, fish oil works well, is well tolerated, and eliminates the concern over side effects of NSAIDs and COX-2 inhibitors drugs.