Proudman SM, James MJ, Spargo LD, et al.

Fish oil in recent onset rheumatoid arthritis: a randomised, double-blind controlled trial within algorithm-based drug use.

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BACKGROUND:
The effects of fish oil (FO) in rheumatoid arthritis (RA) have not been examined in the context of contemporary treatment of early RA. This study examined the effects of high versus low dose FO in early RA employing a `treat-to-target` protocol of combination disease-modifying anti-rheumatic drugs (DMARDs).

METHODS:
Patients with RA <12 months` duration and who were DMARD-naive were enrolled and randomised 2:1 to FO at a high dose or low dose (for masking). These groups, designated FO and control, were given 5.5 or 0.4 g/day, respectively, of the omega-3 fats, eicosapentaenoic acid + docosahexaenoic acid. All patients received methotrexate (MTX), sulphasalazine and hydroxychloroquine, and DMARD doses were adjusted according to an algorithm taking disease activity and toxicity into account. DAS28-erythrocyte sedimentation rate, modified Health Assessment Questionnaire (mHAQ) and remission were assessed three monthly. The primary outcome measure was failure of triple DMARD therapy.

RESULTS:
In the FO group, failure of triple DMARD therapy was lower (HR=0.28 (95% CI 0.12 to 0.63; p=0.002) unadjusted and 0.24 (95% CI 0.10 to 0.54; p=0.0006) following adjustment for smoking history, shared epitope and baseline anti-cyclic citrullinated peptide. The rate of first American College of Rheumatology (ACR) remission was significantly greater in the FO compared with the control group (HRs=2.17 (95% CI 1.07 to 4.42; p=0.03) unadjusted and 2.09 (95% CI 1.02 to 4.30; p=0.04) adjusted). There were no differences between groups in MTX dose, DAS28 or mHAQ scores, or adverse events.

CONCLUSIONS:
FO was associated with benefits additional to those achieved by combination `treat-to-target` DMARDs with similar MTX use.

These included reduced triple DMARD failure and a higher rate of ACR remission.