Reviewer's report

Title: Dietary intake of n-3 long-chain polyunsaturated fatty acids and risk of myocardial infarction in coronary artery disease patients with or without diabetes mellitus: a prospective cohort study

Version: 1 Date: 9 August 2013

Reviewer: Philip Calder

Reviewer's report:

There remains significant interest in the cardiovascular impact of omega-3 fatty acids. Recent large studies show no mortality advantage in contrast to earlier studies, some of which were also large. However some of these recent studies do suggest that there may be sub-groups who benefit. Hence neutral findings of large studies may be due to a heterogeneous mix of patients/subjects, some of whom benefit and some of whom do not. Here data from a prospective study are used to examine the association between omega-3 intake at study entry and MI in patients with coronary artery disease with and without diabetes. Sample size was about 2300 and follow up was 4.8 years. In diabetics a high intake of omega-3 fatty acids was associated with lower risk of MI (hazard ratio 0.38). Conversely in non-diabetics a high intake was associated with increased MI risk (HR 1.45). The study seems to be carefully done and the manuscript is well written. There will be interest in the findings.

Specific comments:
1. Line 34. “coronary heart disease” should read “myocardial infarction”.
2. Line 44. “are” should read “is”.
3. Line 47. 12.536 should read 12,536
4. Line 64. I think it would be better if “might” read “would”.
5. Line 97. “were” should read “was”.
6. Lines 151-152. Recommendations for EPA and DHA are given in mg/day, yet data are analysed and presented as % total energy. If the analysis is repeated expressing data as mg/day are the findings the same?
7. Lines 207-218. Are the serum fatty acid data actually of any use in this manuscript. To my mind they do not add anything. I would recommend to remove them. Alternatively you could analyse the relation between omega-3 status and disease outcome.

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.
Declaration of competing interests:

I declare that I have no competing interests