Reviewer's report

Title: omega-3 Fatty Acids are protective against Paclitaxel-Induced Peripheral Neuropathy: A Randomized double-blind placebo controlled trial

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Reviewer: Gregor Berger

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1. Is the question posed by the authors well defined?

Professor Keshavrz group investigated the effects of an DHA-enriched essential fatty acids on Paclitaxel-induced peripheral Neuropathy (PINP). Given the high burden of disease caused by PIPN for the individual patient, the use of DHA-enriched essential fatty acids in clinical practice seems to be an interesting and important research question to be addressed.

Primary and secondary outcome measures should be declared in advance. It is not clear, if the total neuropathy score was the primary outcome measure, or if the nerve conduction measurements were primary outcome measures.

2. Are the methods appropriate and well described?

A placebo-controlled randomised design is the appropriate to address the research question.

The combination of a clinical outcome measurement with an electrophysiological outcome measurement is nice.

Either you have a randomisation or you have a case-control design based on matching. Your notion that both groups were matched acording to age is therefore not correct. It is the effect of the randomisation that there was no age difference between the groups and a sign that the randomization worked well and not the result of a matching process (despite the low number).

One of the major methodological study limitations is that sunflower oil (the placebo oil) has no fishy taste. Therefore it is not clear, if the study was concealed throughout the study period. This should be noted as a study limitation. Other studies using fish oil supplements have put tiny amounts of fish oil in the placebo capsules to mimik the taste.

The CONSORT flow chart is very unlikely to reflect the whole study population. How many patients were actually excluded? Were there any drop-outs? Please comment? Have all study inclusions terminated the one month study period? If yes, how could you get such a high adhearence rate?

3. Are the data sound?
The data is sound, however the power of the study is low and a statistical type II error cannot be excluded. I think the authors should consider the label this study as a pilot study and do a replication study with an n>300.

4. Does the manuscript adhere to the relevant standards for reporting and data deposition?
No, please adhere to the guidelines of BMC Cancer. The order of the sections does not adhere to the author guidelines
http://www.biomedcentral.com/bmccancer/authors/instructions/researcharticle

5. Are the discussion and conclusions well balanced and adequately supported by the data?
Some more information about the psychological well being of the patients should be provided, as omega-3 fatty acids may also impact on
the limitation of the study should be extended to the statements above.
What about the fatty acid measurements in the serum (why not in red blood cell membranes, as serum fatty acid measurements are more volatile and more dependant on EFA intake and oxidation than red blood cell fatty acid content). The EFA measurements could also give some indication if participants were compliant with the study medication or not.

6. Are limitations of the work clearly stated?
No, the sample size, as well as the concealment is not discussed.

7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished?
Yes, to my knowledge this is the first study in this area. However, some more EFA supplemenation RCTs in depression and pain in general could be discussed.

8. Do the title and abstract accurately convey what has been found? YES

9. Is the writing acceptable?
There is some more editing necessary. As I am not a native English Speaker myself, I do not want to judge about the English, but it seems that it would be worth that a native science writer would do some editing.

Level of interest: An article of outstanding merit and interest in its field

Quality of written English: Needs some language corrections before being published

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

I declare that I have no completing interests