Reviewer's report

Title: Insight in modulation of inflammation by gene, protein and metabolite profiling in overweight males: a human intervention study

Version: 3 Date: 14 December 2009

Reviewer: John Fain

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1. I STILL DON’T UNDERSTAND WHY THE AUTHORS FOCUS ON CRP WHEN IN FACT THEIR DATA ARE NEGATIVE. WHAT WE REALLY NEED IS TO REPLACE THAT FIGURE WITH ONE SHOWING THE ONE PROTEIN THAT DID DIFFER SIGNIFICANTLY BETWEEN PLACEBO AND TREATED GROUPS AND THAT WAS TNF. I NOTE THAT IN THE FIRST PARAGRAPH OF THE DISCUSSION THEY AMPLY SUMMARIZE THEIR FINDINGS AS CITED BELOW AND EMPHASIS IN THE RESULTS, AND ABSTRACT SHOULD BE ON THIS.

“A recognized mechanism of NSAID antipyretic, analgesic and anti-inflammatory efficacy is through the blockade of prostaglandin synthesis by inhibition of cycooxygenase enzymes. Consistent with this mechanism, a reduction in plasma PGE2 levels was observed in the diclofenac treatment group. Additionally, diclofenac intervention resulted in reduced levels of inflammation marker TNF-alpha.”

2. In supplemental table 3 I cannot understand why the change in TNF based on the median values [they are not shown] is -171% while the difference calculated from the means values is -29%. Similarly for RANTES the change based on the medians is +78 but on the means is 4%. However, for the protein listed as #46 the change based on medians is -29 but the change based on means is -235. My point I that the authors do not adequately explain why % changes are based on medians rather than means.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Not suitable for publication unless extensively edited

Statistical review: No, the manuscript does not need to be seen by a statistician.