Reviewer's report

Title: Long-term interdisciplinary therapy reduces endotoxin level and insulin resistance in obese adolescents

Version: 1 Date: 8 February 2012

Reviewer: Eduardo R Ropelle

Reviewer's report:

In the present study Lira and colleagues sought to determine the role of long-term (1 year) of interdisciplinary therapy on endotoxin level and insulin resistance in obese adolescents. The authors found that the long-term of interdisciplinary lifestyle therapy reduced the energy intake, endotoxin level and increased the adiponectin level and insulin sensitivity.

The role of interdisciplinary lifestyle therapy on the endotoxin levels is interesting and relevant. The study was well design and the methodological approaches are adequate. However, some point needs to be addressed.

Major concerns:

The effects of lifestyle therapy in some parameters, such as, glucose, Insulin, HOMA-IR, inflammatory profile and adiponectin levels in obese subjects were expected, as demonstrated by several well controlled studies. I believe that the result regarding the endotoxin level is interesting, however, this date is isolated and need to be extended.

The correlation analysis about fat dietary with endotoxin, insulin, adiponectin and HOMA index in the figure 1 is inconsistent, since the analysis of the fat intake was superficial. What kind of fat the subjects consumed? Maybe this positive correlation is also observed with the other nutrients or other parameters such as, body weight or fat mass. This figure is not necessary.

The values regarding the control (lean) group could be important to compare the IL-6, endotoxin and adiponectin levels with obese subjects.

It has been demonstrated that the lifestyle intervention reduces the inflammatory profile; however, this date was not observed in the present study. Please comment this issue.

Minor points

In the introduction section (3rd paragraph), the authors described: “Recently, our group has shown that long-term interdisciplinary lifestyle therapy...”, however no reference was mentioned.

What is “insulinA” in the figure 1B.
The p values were demonstrated in the tables, please, remove the p values from the result section.

The reference used in the second paragraph is insufficient. Please use more references.

Please remove the "minus" symbols in the first paragraph in the results section.

**Level of interest:** An article of importance in its field

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

**Statistical review:** Yes, and I have assessed the statistics in my report.