Reviewer’s report

Title: Leptin, insulin and thyroid hormones in a cohort of Egyptian obese Down syndrome children: a comparative study

Version: 2 Date: 15 October 2012

Reviewer: Kate Steinbeck

Reviewer’s report:

Thank you for the opportunity to review the manuscript. The authors have made a number of excellent changes. I would like to see the following changes made:

Compulsory Revisions:

Aim: The current study was designed to clarify differences in some obesity-related hormones in a group of prepubertal Down syndrome children."

Must state compared to non-DS children

Background:

“In addition, children with DS may have a tendency to overeat, since the cerebral regions that are responsible for weight regulation may be damaged (5,6) moreover, there is incapacity to do long physical exercise in DS individuals because the effort can be quickly perceived as painful, difficult and without sense for them, which contributes to adoption of a sedentary lifestyle(7).”

I do not believe that there is evidence for either of these statements 1) damage to hypothalamus OR 2) painful muscles.

Discussion:

I would like to see this paragraph deleted as it overextends the discussion of what are simple baseline findings

“Insulin leptin interrelationship: Consistent with insulin/leptin arcuate nucleus of the hypothalamus axis, insulin and glucose appear to stimulate leptin secretion in adipocytes. In response, leptin decreases insulin secretion via direct action on leptin receptors in pancreatic B-cells while enhancing their actions and consequently improves whole body insulin sensitivity(27). So, obesity promoted -hyperinsulinemia stimulates leptin release. Like other biological signalling pathways, leptin appears to regulate its own receptor signaling or increased central leptin results in reduced hypothalamic leptin receptor expression and leptin signaling. Hence, obesity promotes hyperleptinemia, which in turn self promotes leptin resistance and further obesity, making leptin resistance both a consequence and cause of obesity(27).”

General language comments:

In contrary Flore et al., 2008(26) could not display IR in a group of young non obese adults with DS. CHANGE CONTRARY
TO CONTRAST AND DISPLAY TO DEMONSTRATE

"Large sample size, studying other causes of DS and further genetic study are needed to prove the genetic role in this tendency for obesity in DS". should read as follows

A LARGER SAMPLE SIZE, [I DON'T KNOW WHAT STUDYING OTHER CAUSES MEANS AS THERE IS ONE CLEAR CAUSE OF DS] AND FURTHER GENETIC STUDIES ARE NEEDED TO UNDERSTAND THE AETIOLOGY OF DS ASSOCIATED OBESITY.

Level of interest: An article of limited interest

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

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

Declaration of competing interests:

I declare that that I have no competing interests