Reviewer’s report

Title: The effect of enteral and parenteral feeding on secretion of orexigenic peptides in infants

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Reviewer: Thomas Brzozowski

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This study describes the effect of feeding on the levels of ghrelin and orexin A in breast-fed, milk formula-fed and highly hydrolyzed, hypo-allergic formula-fed, age matched infants as well as in children with iv provision of nutrients. Peptides were determined using EIA commercial kits. It was found that ghrelin and orexin levels were significantly lower in the breast-fed children than other groups. The postprandial concentrations of ghrelin increased in breast-fed infants and cow milk formula-fed infants as compared to fasting values. The decrease in concentration of ghrelin after the meal was observed only in group infants fed with hydrolyzed milk formula diet. Now change in orexin was recorded. It was concluded that only highly hydrolyzed diet strongly affects fasting and postprandial ghrelin and orexin plasma concentrations. This may influence the normal growth and development with possible negative effect on short and long-time effects on development. Also total parenteral nutrition with the continuous stimulation and lack of fasting modulation might be responsible for disturbed development in children fed this way.

The findings by Author in children fed with different milk diet sound interesting and demonstrate solid evidence with a novel aspects on ghrelin and orexin-A contribution to the children development, though couple of issues require clarifications before the final decision regarding this paper.

Critical comments

1. What Author mean by saying "...a total parenteral nutrition with continues stimulation" (abstract)?
2. What means “lack of fasting modulation” in the abstract conclusion?
3. How many Figures are included in this paper? There are two or finally three Figures in total, in this paper? Figure descriptions indicates only two Figures, namely Fig. 1 and Fig. 2 whereas Fig. 3 is indicated in Results (last para).
4. Both, ghrelin and orexin-A are orexigenic peptides involved in the stimulation of appetite and hunger. Why the response on feeding with different milk diet presented in Fig. 2 is different between both two peptides with the respect to group I, II and III? Clearly ghrelin is suppressed while orexin-A increased? Author should comment on that in Discussion.
5. The hydrolyzed milk diet showed the most pronounced effect on plasma ghrelin and orexin-A levels. Which nutrients were missing in this formula as
compared to others used as the feeding for this children? Author comment on that issue might be explanatory to the observed changes in these peptides concentration. This need to be also discussed in the light of ghrelin-like obesity developed by these children in the adulthood.

6. Discussion is too long and repetitive in some aspects. It might be shortened by about 30% without the harm to that paper. Instead Authors should discussed points raised in this review.

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

**Quality of written English:** Acceptable

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