



# Comments on “Improved Serum Leptin and Ghrelin Following Bariatric Surgery Predict better Postoperative Cognitive Function”

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Dear Editor,

We thank Dr. Alosco and colleagues for reporting their interesting research into the importance of serum leptin and ghrelin levels in postoperative cognitive function after bariatric surgery.<sup>1</sup> We wish to make some comments on the methodology they used in their study to evaluate serum ghrelin.

Ghrelin is a feeding-stimulating and growth-hormone-releasing hormone in humans. Several previous researches have revealed that various diseases such as functional dyspepsia, hyperthyroidism, asthma, inflammatory bowel disease, ankylosing spondylitis, iron deficiency anemia, hepatocellular cancer, coronary artery disease, chronic liver disease, polycystic ovary disease, chronic renal disease, and *Helicobacter pylori* infection can alter serum ghrelin.<sup>2,3</sup> The authors did not mention these potential confounding diseases in their paper.

The serum ghrelin level can also be affected by corticosteroids, antidepressants, bromocriptine, metformin, pioglitazone, and anti-tumor necrosis factor- $\alpha$  therapy drugs,<sup>4,5</sup> as well as dietary supplements such as free fatty acids, vitamin D, and zinc.<sup>6,7</sup> Therefore, the authors should also have stated whether or not the participants used these kinds of drugs and dietary supplements.

Alosco and colleagues stated that they excluded subjects who consumed alcohol, but they did not report the cigarette-smoking habits of the included subjects. Serum ghrelin levels are known to be associated with smoking,<sup>8</sup> and a regression analysis could have been applied to determine whether smoking affected the serum ghrelin levels found in the reported study. Pregnancy is another factor known to affect the serum ghrelin level,<sup>9</sup> and so the pregnancy status should also have been reported on. Therefore, interpreting the reported results in their current form is problematic.

In conclusion, we believe that while this study contributes important data to the medical literature, clarifying the concerns raised herein would provide a clearer picture to the readers.

## Conflicts of Interest

The authors have no financial conflicts of interest.

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