**Eur**opean **Rev**iew for **Med**ical and **Pharmacol**ogical **Sci**ences 2015; 19: 1747-1748

Letter to the Editor

# Important details while assessing leptin results

*Dear Editor*,

In the recent issue of European Review for Medical and Pharmacological Sciences Peng et al[1] reported very important information about the relation between high leptin and inflammation in uremic patients. They concluded that high level of leptin and correlated inflammation were involved in the initiation and development of uremia; moreover, leptin was an important mediator. However, we think that some issues should be discussed.

First, as mentioned in many studies, dietary intake of some food groups and supplements including fatty acids (particularly omega-3 fatty acid) can affect plasma leptin levels[2]. In a review by Gray et al[2], omega-3 is observed to decrease circulating levels of leptin in non-obese subjects; however, omega-3-associated increases in leptin levels have been observed in obese subjects. However, information about the nutritional/dietary intake of nutrients, which possibly affects serum leptin levels, is missing in the original study. In this respect, the authors should investigate the usage of these kinds of drugs and dietary supplements in participants.

Second, a close relationship between hyperleptinemia and malnutrition with inflammation in patients with end-stage renal diseases was indicated in the original study. However, there are studies revealing that low serum leptin serves as a biomarker of malnutrition[3,4]. Because of these conflicting results, it should be better to assess nutritional status of patients in the original study. Nevertheless, the nutritional status of participants has not been evaluated and there is no effective laboratory indicator identifying malnutrition as the cause of in the current study. As is known, serum proteins, particularly albumin, have often been used to assess malnutrition. Albumin has a relatively long half-life, approximately 14-20 days, and because of this, has been touted as a marker of chronic nutritional status[5]. Therefore, it should be better to assess at least albumin levels to evaluate the correlation between leptin levels and malnutrition in the current study.

Third, as is known, the determination of serum BUN currently is one of the most widely used screening tests for the evaluation of kidney function. However, interpretations for BUN test may vary based on the lab testing it and average BUN values tend to range by gender and age[6]. Although, age and gender were matched between the two groups by design of the study, it would be more appropriate to indicate awareness on this variation.

In summary, assessing the dietary intake of confounders for leptin and nutritional status of the study population would improve credibility of the study.

## Conflict of Interest

The Authors declare that there are no conflicts of interest.

## References

1) Peng DZ, Liu XW, Huang L, Zhu XF, Zheng YQ, Wang LX. Relationship between leptin and chronic inflammatory state in uremic patients. Eur Rev Med Pharmacol Sci 2014; 18: 2882-2885.
2) Gray B, Steyn F, Davies PS, Vitetta L. Omega-3 fatty acids: a review of the effects on adiponectin and leptin and potential implications for obesity management. Review. Eur J Clin Nutr 2013; 67:1234-1242.
3) Amirkalali B, Sharifi F, Fakhrzadeh H, Mirarefein M, Ghaderpanahi M, Badamchizadeh Z, Larijani B. Low serum leptin serves as a biomarker of malnutrition in elderly patients. Nutr Res 2010; 30: 314-319.

*Corresponding Author:* Erdim Sertoglu, MD; e-mail: erdimsertoglu@gmail.com

4) Czaja-Bulsa G, Garanty-Bogacka B, Gebala A, Syrenicz M, Krupa B. Serum leptin concentrations in children with mild and moderate malnutrition. Ann Acad Med Stetin 2010; 56: 22-27.
5) Banh L. Serum proteins as markers of nutrition: what are we treating? Practical Gastroenterology October 2006; 46-64. Available from: http://www.medicine.virginia.edu/clinical/departments/medicine/divisions/digestive-health/nutrition-support-team/nutrition-articles/BanhArticle.pdf [Accessed November 12, 2014].
6) Blood Urea Nitrogen (BUN), Serum. [Webpage on the Internet] USA: Mayo Medical Laboratories; [Accessed October 26, 2014]. Available from: http://www.mayomedicallaboratories.com/test-catalog/Clinical+and+Interpretive/8179.

*E. Sertoglu[1], M. Uyanik[2], S. Tapan[3]*

[1]Anittepe Dispensary, Biochemistry Laboratory, Ankara Mevki Military Hospital, Ankara, Turkey
[2]Biochemistry Laboratory, Corlu Military Hospital, Tekirdag, Turkey
[3]Department of Clinical Chemistry, Gulhane School of Medicine, Ankara, Turkey