



Emerging Markers of Atherosclerosis Before and After Bariatric Surgery

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To the editor:

I read with great interest the article by Justyna Domienik-Karłowicz et al. [1] that assess the emerging biochemical markers of arterial remodeling in female patients with morbid obesity before and after surgical treatment, compared to a control group. I am satisfied with the clear evidence of the reduction in adiponectin, matrix metalloproteinase (MMP)-2, and MMP-9 levels in the obese patients after bariatric surgery. However, I have some queries on the definition of hypoadiponectinemia. Their study demonstrated that hypoadiponectinemia was diagnosed in 90 % of patients who underwent bariatric surgery and 20 % subjects in the control group. In this study, hypoadiponectinemia was defined as adiponectin levels of <7000 ng/mL. According to observations by Schondrof et al. [2], these adiponectin levels were a predictor of very high risk of cardiovascular complications. It is well established that adiponectin levels are higher in women and lean individuals [3, 4]. Moreover, a recent study demonstrated ethnic variations in circulating adipokine including adiponectin levels before and after adjustment for BMI [5]. In this context, it is suggested that hypoadiponectinemia would define by using sex and ethnic-specific levels. In addition, it remains inconclusive whether adiponectin levels can predict future risk of coronary heart disease in women [6, 7]. Further study is necessary to clarify the association between adiponectin and a predictor of cardiovascular disease.

Conflict of Interest The author has no conflict of interest.

References

1. Domienik-Karłowicz J, Rymarczyk Z, Dzikowska-Diduch O, Lisik W, Chmura A, Demkow U, et al. Emerging markers of atherosclerosis before and after bariatric surgery. *Obes Surg*. 2014.
2. Schondorf T, Maiworm A, Emmison N, Forst T, Pflutzner A. Biological background and role of adiponectin as marker for insulin resistance and cardiovascular risk. *Clin Lab*. 2005;51(9–10):489–94.
3. Arita Y, Kihara S, Ouchi N, Takahashi M, Maeda K, Miyagawa J, et al. Paradoxical decrease of an adipose-specific protein, adiponectin, in obesity. *Biochem Biophys Res Commun*. 1999;257(1):79–83.
4. Combs TP, Berg AH, Rajala MW, Klebanov S, Iyengar P, Jimenez-Chillaron JC, et al. Sexual differentiation, pregnancy, calorie restriction, and aging affect the adipocyte-specific secretory protein adiponectin. *Diabetes*. 2003;52(2):268–76.
5. Morimoto Y, Conroy SM, Ollberding NJ, Kim Y, Lim U, Cooney RV, et al. Ethnic differences in serum adipokine and C-reactive protein levels: the multiethnic cohort. *Int J Obes (Lond)*. 2014.
6. Lawlor DA, Davey Smith G, Ebrahim S, Thompson C, Sattar N. Plasma adiponectin levels are associated with insulin resistance, but do not predict future risk of coronary heart disease in women. *J Clin Endocrinol Metab*. 2005;90(10):5677–83.
7. Sook Lee E, Park SS, Kim E, Sook Yoon Y, Ahn HY, Park CY, et al. Association between adiponectin levels and coronary heart disease and mortality: a systematic review and meta-analysis. *Int J Epidemiol*. 2013;42(4):1029–39.

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