The Relationship Between Gender Differences and Abnormal Adipokine Profile for Cardiometabolic Risk Indicators

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Otelea and his colleagues (1) reported in one of your recent issues their study findings on the cross-sectional correlation between the leptin-to-adiponectin ratio and unfavorable plasma lipid profile in 93 predominantly women nonobese, healthy young adults. Researchers reported a significant relationship between high leptin-adiponectin ratio and cardiometabolic risk indicators such as anthropometric measurements, plasma atherogenic index, lipid accumulation product and insulin resistance in the healthy young adult population, whereas no relationship has been reported between low-grade inflammatory markers such as interleukin-6 and high-sensitivity C-reactive protein. These findings suggest that high leptin-adiponectin ratio may be a good indicator in the evaluation of cardiovascular and metabolic risk in the non-obese healthy young population. (1)

In recent studies, it has been reported that there is a strong relationship between leptin and adiponectin levels and insulin resistance and metabolic syndrome and adipokines can be used as a diagnostic marker for metabolic syndrome. (2-4) In addition, it has been suggested that leptin-adiponectin ratio is a better marker of insulin resistance and metabolic syndrome than leptin or adiponectin only (2,3). In this study by Otelea et al., there is no data on how the leptin-adiponectin ratio changes with gender and the effect of this change on cardiometabolic risk indicators. However, in the literature, leptin and adiponectin levels and hence the leptin-adiponectin ratio were reported to differ between genders. (3-5) In a study by Chou et al., leptin and adiponectin levels and the leptin-adiponectin ratio were significantly higher in females than males. (4) The increase in leptin levels in women is attributed to the higher proportion of fat tissue in females compared to males, whereas the decrease in adiponectin levels in males is explained by androgens inhibiting adiponectin secretion.(3-5)

In light of this information, considering the differences between gender may help to better clarify this issue in future studies that investigate the relationship between the adipokine profile and the cardiometabolic risks.

REFERENCES