Adiponectin and hypertension – nothing is simple.Data from Croatian Rural Study

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Adiponectin is an adipokine secreted almost exclusively from fat tissue and is associated with a positive metabolic profile (i.e. it is negatively associated with BMI, waist circumference, insulin resistance and LDL cholesterol) (1, 2, 3). The association of adiponectin and hypertension and its role in hypertension is still a matter of debate (4, 5). The majority of studies show a negative association, but in many there is a lack of association. Obtained conflicting results could be mostly explained with diversity of subjects included in different studies. We conducted a study in which we examined these associations and showed that in our rural population with normal kidney function there is no association of adiponectin with systolic or diastolic blood pressure as well as risk of hypertension (5). Additionally we performed a genetic association study on two of the quite important ADIPOQ gene polymorphisms, -11377C>G and -11391G>A, and did not find an association of these genotypes or haplotypes with hypertension in any of five genetic models (codominant, dominant, recessive, log-additive and overdominant). In our study we carried out for the first time a thorough population analysis and literature review which included papers with a total of >20,000 subjects. This data could prove valuable to future ADIPOQ gene polymorphisms. In conclusion, the differing and complex association of adiponectin and blood pressure is probably a consequence of different populations set on different points of the cardiometabolic continuum as well as differences in genetic constellations.