**ASSOCIATION BETWEEN THE RS11614913 POLYMORPHISM IN THE HSA-MIR-196A2 AND OBESITY-RELATED PARAMETERS**

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*Background*: MicroRNAs (miRs) are small noncoding, single-stranded RNA molecules, that form base-pairs with target messenger RNA, leading to negative regulation of their translational stability and efficiency. They are involved in almost all cellular processes. Single nucleotide polymorphisms (SNPs) occurring in the miRNA gene region may have effects on the function of miRNAs through altering miRNAs expression, binding and/or maturation. Although there are several studies analyzing the effects of miRs polymorphisms on obesity-related phenotypes, there has been a lack of consistency in the results. In a previous study, consisting of a GWAS of 2,300 variants in miRNA-encoding sequences and their associations with some cardiometabolic traits, the SNP rs11614913(C>T), in the hsa-miR-196a2 was the one most associated with waist to hip ratio. In animal studies this miR-196a2 has been shown to be primarily involved in the regulation of inflammation.

*Aims*: Our aim was to study whether the SNP rs11614913(C>T) in hsa-miR-196a2 is also associated with anthropometric parameters in a high cardiovascular risk Mediterranean population.

*Methods*: We analyzed PREDIMED-Valencia participants (n=1,094; aged 67+/-7 y) at baseline. Anthropometric measurements were taken by direct measurement. We analyzed the rs11614913-SNP with a high-density array. Multivariable regression models were fitted.

*Results and Conclusions*: Prevalence of miR-196a2-SNP genotypes was 36% CC; 48% CT and 15%TT. Variant allele carriers tended to have higher waist circumference in the whole population (102+/-12 cm; 103+/-12 cm and 104+/-12 cm; P=0.087). This association was higher and reached the statistical significance in women (P=0.028). Also in women, we found a significant association of this SNP with waist-to-height ratio, which was greater in variant-allele carriers (P=0.015). No association was found with BMI. In conclusion, this study has replicated the previously described association between the miR-196a2-rs11614913 SNP and waist measurement, mainly in women, so providing further evidence of the involvement of this miR in abdominal obesity.