

#### CONCLUSION AND RECOMMENDATION

Genotyping of published SNP variants that interact with dietary composition to modulate biomarkers and health outcomes can provide a framework for the development of novel foods that are genotype dependent, in addition to the development of personalized dietary recommendations, aimed towards a more individualized/personalized strategy of health promotion, prevention and management of nutrition related diseases.

#### KEY WORDS

genotype, single nucleotide polymorphisms, non-communicable diseases

### OP-06

#### THIGH AND WAIST CIRCUMFERENCE AND GLYCEMIC VARIABILITY AND CAROTID ATHEROSCLEROSIS IN KOREAN PATIENTS WITH TYPE 2 DIABETES

<https://doi.org/10.15605/jafes.034.02.S6>

**Myungki Yoon,<sup>1</sup> Kap Bum Huh,<sup>2</sup> Chul Sik Kim<sup>3</sup>**

<sup>1</sup>College of Medicine, Hallym University, Chuncheon, Republic of Korea

<sup>2</sup>Huh's Diabetes Center and the 21st Century Diabetes and Vascular Research Institute, Seoul, Korea

<sup>3</sup>Division of Endocrinology and Metabolism, Department of Internal Medicine, College of Medicine, Hallym University, Korea

#### INTRODUCTION

To investigate whether thigh circumference and waist circumference are associated with glycemic variability and carotid atherosclerosis in patients with type 2 diabetes mellitus(T2DM).

#### METHODOLOGY

This study performed in 3,075 Korean patients with T2DM. The hemoglobin glycation index (HGI) was defined as the measured HbA1c minus predicted HbA1c, which was calculated from the linear relationship between HbA1c and fasting plasma glucose levels. When the HGI value was 0 or more, it was considered to have high glycemic variability (GV). Carotid atherosclerosis was defined as having a clearly isolated focal plaque or focal wall thickening >50% of the surrounding intima-media thickness (IMT).

#### RESULTS

The presence of the GV was lower with increasing thigh circumference quartiles in men and was higher with increasing waist circumference quartiles in women after adjusting for confounding variables that could affect GV. There was an augmentative effect of thigh and waist circumference on the frequency of high GV, which was dramatically higher waist-to-thigh circumference ratio quartile (adjusted odds ratio for high GV for the highest quartile of waist-to-thigh circumference compared with the lowest quartile being 1.595 and 1.570 in men and women, respectively). The larger the thigh circumference, the less carotid atherosclerosis was, and in women this significant relationship disappeared after adjusting for potential confounders.

#### CONCLUSION

The GV appears to be affected by the thigh circumference in men and waist circumference in women. In addition, a low thigh circumference and high waist circumference was strongly associated with higher GV in Korean diabetic patients. In particular, thigh circumference was associated with carotid atherosclerosis in men.

#### KEY WORDS

thigh circumference waist circumference glycemic variability carotid atherosclerosis