Meetings International
SciTechnol

J Food Nutr Disor 2018, Volume 7
DOI: 10.4172/2324-9323-C2-012

International Conference on
DIABETES AND HEALTHCARE
&
International Conference on
FOOD SCIENCE AND TECHNOLOGY

June 25-26, 2018 | Toronto, Canada

Dietary u-3 polyunsaturated fatty acid intake modulates impact of insertion/deletion polymorphism of APOB gene on obesity risk in type 2 diabetic patients

Fariba Koohdani, Masoumeh Rafiee, Gity Sotoudeh, Mahmoud Djalali, Ehsan Alvandi, Mohammadreza Eshraghian and **Fereshteh Sojoudi**
Tehran University of Medical Sciences, Iran

Objectives: The goal of the study described here was to determine whether dietary u-3 polyunsaturated fatty acid (PUFA) intake modulates the association between ApoB Ins/Del polymorphism and obesity in type 2 diabetic patients. Methods: In this cross-sectional study, 700 patients with type 2 diabetes were recruited in Tehran. Weight and waist circumference (WC) were measured, and body mass index (BMI) was calculated. Dietary intake was assessed using a validated semi quantitative food frequency questionnaire. APOB genotyping was performed with 8% polyacrylamide gel electrophoresis. Results: We observed a significant interaction between Ins/Del genotype and dietary u-3 PUFA intake with respect to BMI, WC, and obesity risk in both unadjusted (P = 0.007, P =0.001, and P = 0.021, respectively) and adjusted (P = 0.007, P = 0.04, and P = 0.002, respectively) samples. Thus, the carriers of the Del allele were only associated with lower BMI (P = 0.01) and WC (P = 0.002) among individuals with high u-3 PUFA intake (_0.6% of energy), but not in those with low u-3 PUFA intake (<0.6%). Also, when dietary u-3 PUFA was <0.6%, general obesity risk in carriers of the Del allele was about 1.6 times higher than that of Ins/Ins homozygotes (odds ratio = 1.59, 95% confidence interval: 1.05–2.52, P = 0.039). But with high u-3 PUFA intake (_0.6%), the risk was 0.46 times lower (odds ratio ¼ 0.46, 95% confidence interval: 0.25–0.79, P = 0.003).Moreover, a similar interaction was observed in central obesity only in men after adjustment for confounder variables (P = 0.041). Conclusions: These findings support the hypothesis that a diet high in u-3 PUFA (≥0.6%) can decrease the obesity risk in carriers of the Del allele of ApoB gene.

fkoohdan@tums.ac.ir

Notes: