

JOINT EVENT

12th International Conference and Expo on**Proteomics and Molecular Medicine** &12th International Conference on**Advancements in Bioinformatics and Drug Discovery**

November 26-28, 2018 | Dublin, Ireland

Investigation of polymorphism Fok I VDR receptor gene of vitamin D with low levels of vitamin D and insulin resistance as risk factors for type-2 diabetesNikolopoulos Vaios², Stylianos Katsaros¹, Catherine Anetaki³, Maria Chatzidimitriou⁴ and Stella Mitka⁴¹Papageorgiou Hospital, Greece²University of Thessaly, Greece³Alexander Technological Educational Institute of Thessaloniki, Greece⁴Democritus University of Thrace, Greece

This work studies the relationship between the polymorphism Fok I VDR receptor gene of vitamin D, the low levels of vitamin D and the insulin resistance as risk factors for type-2 diabetes (DM2). Samples from 100 men and 101 women, aged 20 to 50 years, were collected of whole blood and serum during a fasting phase, autumn and winter of 2016 from Thessaloniki regional unit, Greece. All participants in this study were awarded and informed to consent in this research. We used PCR-RFLP in order to identify the genotype of vitamin D receptor. Glycemic markers, glucose, serum 25-hydroxyvitamin D [25(OH) D] and insulin levels was measured, while insulin resistance index HOMA-IR and body mass index (BMI) were calculated. Participants formed four groups based on levels of 25(OH)D. Groups includes less than 10 ng/ml to over than 30 ng/ml. Our findings indicate high percentage of vitamin D deficiency, especially among women in the age of 20-50 years old. The determination of HOMA-IR showed a statistically significant negative correlation with vitamin D and HOMA-IR. Individuals who experienced HOMA-IR of 1.90 to 2.90 were classified as having pre-diabetes and those who had more than 2.90 already suffering from DM-2. The study of Fok-I polymorphism of VDR receptor gene was found in the total sample percentages of genotypes FF 39.8%, Ff 37.31%, ff 22.89%. The ff genotype was increased in values less than 10 ng/ml, which is extremely worrying. The genotype is associated with the defective function of VDR and in such cases administration of vitamin supplement could not help. In conclusion, the reduced vitamin D levels are more common to people who have the genotype ff. This is particularly important for our country because apart from low levels of vitamin D, there also are more frequently found the genotypes ff and Ff that are associated with defective function of vitamin D.

Biography

Nikolopoulos Vaios is a Biologist, MSc and a PhD candidate, has his expertise in molecular biology and diagnostics. His passion is to combine more aspects and functions of molecules and their pathways in order to see the big picture in a pathologic state either this is a cancerous process or diabetes etc. Currently, he is working in protein purification and ligand binding studies while studying crystallography and also elaborate with other colleagues in various clinical studies. His goal is to be a part of this "thinking tank" community to share his inquiring mind and to absorb new ideas in this highly competitive area of biosciences.

nikvaivos@bio.uth.gr

Notes: