

World Congress on

Human Genetics

November 07- 08, 2016 Barcelona, Spain

Comprehensive pedigree analyses of metabolism-related diseases for the evaluation of genetic predisposition to obesity: Gender and aging are critical factors

E Sacide Caglayan and Lale S Akan

Ankara Yildirim Beyazit University, Turkey

The complexity in multifactorial etiology makes it difficult to understand responsible genes contributing to obesity (OB) that is also associated with metabolism-related diseases (MrDs) including Type II Diabetes (T2D), Hypertension (Ht) and Hypercholesterolemia (Hch). Herein, we performed comprehensive pedigree analyses consisting of 1246 female, 1284 male and total 3.156 family members of 59 probands who were accepted in generation III (GEN III). Body Mass Index (BMI) values of 47 probands are included to study. Almost all MrDs were accumulated in GEN I and GEN II. Aging was a valuable risk for OB (OR: 2.96; 95% CI: 1.13-4.55), T2D (OR: 4.92; 95% CI: 2.88-8.42) and Ht (OR: 3.8; 95% CI: 2.36-6.14) among females but was not for males. In family trees, OB in females was positively correlated with total OB (p: 0.000), Ht in females (p: 0.026) and total Hch (p: 0.019). However, male OB was positively correlated with total OB (p: 0.000) and Hch in males (p: 0.011). A positive correlation was also observed between age and BMI values of male probands (p: 0.015), which was not observed in females (p: 0.909). OB in family history was more common (OR: 36; 95% CI: 3.19-405.9) in overweight (BMI $\geq$ 25) probands than normal individuals in young-aged group (19-29 years old). However, there were no valuable differences between middle-aged probands (30-40 years old). In conclusion, aging is critical factor for only female predisposition to OB and MrDs. Common shared genes between OB and MrDs should be intensively selected for genetic testing in OB and a comprehensive pedigree analysis is valuable for patient-specific evaluation.

Biography

E Sacide Caglayan has completed her PhD in Medical Genetics from Afyon Kocatepe University in 2010 and worked as a Visiting Scholar in Ruohola-Baker Lab, Institute of Stem Cell & Regenerative Medicine, University of Washington. She is currently working as an Assistant Professor in Ankara Yildirim Beyazit University, Faculty of Health Science, Department of Nutrition in Ankara, Turkey.

escaglayan@gmail.com

Notes: