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Serum leptin levels are strongly associated with body fat mass but not with cardio-metabolic risk factors or insulin resistance with androgen deficiency in Georgian study

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Introduction: Metabolic syndrome and obesity is a chronic disease that concerns over a billion people all over the world. Adipose tissue is a place of synthesis of several metabolically active proteins, called adipokines. One of such adipokines is leptin.

Aim: The aim of present study was to find correlation between leptin and risk factors of cardio-metabolic disease and androgen deficiency.

Materials & Methods: The case-control study was conducted in a group of Georgian people. A total of 186 participants aged 20-70 were included for the study. The subjects who were overweight or obese were enrolled in the study group, whereas the subjects with normal weight were enrolled in the control group. The control group consisted of 20 subjects with normal weight. In both groups, following measurements were done: assessment of height, weight, BMI, waist circumference and blood pressure. Venus blood sample was obtained for plasma leptin, insulin, glucose and lipid profile analysis. The risk of cardio-vascular disease was calculated according to the Framingham heart risk calculator. Body fat distribution was measured using Dual Energy X-ray Absorptiometry. Statistical analyses were performed using the SPSS 19.0 software package (SPSS, Inc., Chicago, IL).

Results: Our study revealed that there was a correlation between serum leptin and anthropometric characteristics in the whole study population, but when the population was divided into groups the correlation was lost. The positive correlation was with every region of the body in whole study population and in patients with obesity I and II degree. The correlation was not seen in patients with normal weight, over weight and morbidly obese patients. The correlation between leptin and cardio-metabolic risk factors was not detected.

Conclusion: In our study, serum leptin levels are dependent mostly on body fat percentage and body fat mass. Serum leptin levels did not associate with cardio-metabolic risk factors.

Biography

Salome Kalandadze, MD is an Endocrinologist at National Institute of Endocrinology; Endocrinologists at the Department of Endocrinology and Metabolism of "New Hospitals"; Dietetics at "La Belle Esthetic Center"; She is also a Member of various associations such as Georgian Young Association for the Study Diabetes and Metabolic Disorder, European Association For The Study Of Obesity, Study Group For The Insulin Resistance, European Association For The Study Of Diabetes. She is also a reviewer for Georgian Journal "Aversi Magazine" She has participated and presented at several international conferences. She is a researcher in several clinical trials, author of more than 7 publications & lecturer in Endocrinology and Nutrition

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