ELEVATED CHEMERIN LEVELS IN PAKISTANI MEN: AN INTERRELATION WITH METABOLIC SYNDROME PHENOTYPES

S. Fatima1, K. Bozaoglu2, R. Rehman3, A.S. Memon4, F. Alam4

1Department of Biological and Biomedical Sciences, Aga Khan University, Karachi, Pakistan; 2Genomics and Systems Biology, Baker IDI Heart and Diabetes Institute, Australia; 3Department of Physiology, Bahria University Medical and Dental College, Karachi, Pakistan; 4Department of Physiology, Basic Medical Sciences Institution, Jinnah postgraduate Medical Centre, Karachi, Pakistan

Chemerin is a novel protein linked to adipocyte differentiation and the development of metabolic imbalances. We sought to examine the relationship of chemerin with metabolic syndrome disturbances including body fat percentage, serum lipid, glucose, insulin levels in lean and obese volunteers. A cross-sectional study of 90 randomly selected healthy males from Pakistan was divided into three groups as per Body Mass Index (BMI) criteria for South Asian Population. Anthropometric measurements were taken for BMI, waist circumference, hip circumference and body fat percentage, while serum analyses were performed for fasting blood glucose, fasting insulin, and fasting lipid profile and serum chemerin. Associations between serum chemerin levels and body fat and other metabolic syndrome parameters were performed using ANOVA and multiple regression analyses. Data was presented as Mean ± SD. In all statistical analyses p values <0.05 were considered significant. Circulating chemerin levels were significantly higher in obese subjects with BMI greater than 25 kg/m2 compared with those with a BMI below 25 kg/m2 (P = 0.001). Serum chemerin levels were found to be independently and significantly associated with serum levels of cholesterol (P = 0.0160; r = 0.255), fasting glucose (P = 0.002; r = 0.323), HOMA-IR (P = 0.004; r = 0.300) and hip circumference (P = 0.021; r = 0.246). This demonstrates that chemerin levels are associated with obesity and dyslipidemia and may play a role in the development of insulin resistance. This data suggests that chemerin may serve as an independent marker in diagnosing these conditions even before they become clinically symptomatic.