Correlation between serum levels of resistin and lipid profile and anthropometric indices in women with different grades of obesity

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Background and objective: Obesity as the low-grade inflammatory state, associates with changes in production of adipokins that may be affected on the lipid metabolism in human. Resistin, as an adipokins, secretes by adipocytes and has been proposed to link obesity with insulin resistance. The aim of this study was to evaluate serum levels of resistin and lipid profile in normal weight and different grades of obese Iranian women.

Materials and methods: The current cross-sectional study was carried out on 149 non-diabetic women, including 33 normal weight (BMI<24.9 kg/m^2) and 116 overweight and different grades of obesity (BMI>25 kg/m^2) with age range of 15-49 years. Serum levels of resistin, fasting blood glucose and lipid profile were measured by using RIA, glucose oxidize and enzymatic methods, respectively.

Results: Serum mean resistin had increased with obesity. Resistin levels showed a significant positive correlation with BMI, waist, hip and MAC circumferences (r=0.448, r=0.429, r=0.417, r=0.352; p<0.001) in all groups, respectively. It had a positive correlation with TC (r=0.244,p=0.014), LDL-C (r=0.268,p=0.011), TG (r=0.296,p=0.006), LDL-c/HDL-c ratio (r=0.236,p=0.017) and CRP (r=0.392,p=0.001) in all groups. Based on resistin<2.89 index, 8 women showed the highest resistin value in all groups. Results of multiple linear regression analysis indicated that, hip size and LDL-c level showed the highest effect on resistin level variations.

Conclusion: Results indicated that, elevated unfavorable lipid profile and resistin level had a closed correlation with BMI. It suggested that control of hip size and LDL-c level may be effective on control of resistin linked to obesity in non-diabetic Iranian women.

Keywords: BMI, Resistin, Obesity, Anthropometric indices, Lipid profile.