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Serum adropin and irisin levels are associated with obesity and metabolic indicators of obese patients

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Introduction: Adropin and irisin are known as peptide hormones that regulate food intake and energy expenditure.

Aim: Our study aimed to investigate the association between adropin and irisin levels with obesity and metabolic indicators of obese patients in China.

Methodology & Theoretical Orientation: 70 overweight and obesity patients who were regularly followed up in the multidisciplinary clinic for obesity and 28 healthy individuals who visited physical examination center of Peking University First Hospital were enrolled in our study. Demographic data and obesity related metabolic indicators were collected during the first visit. Serum adropin and irisin levels were evaluated using EIA kit and ELISA kit, respectively. Statistical analysis was performed using SPSS 21.0.

Findings: Serum adropin levels reduced significantly in overweight/obesity group comparing with healthy individuals (6.92 ± 2.43 vs. 7.97 ± 1.84 , $p=0.043$), while irisin levels showed no difference between the two groups. Adropin level was negatively associated with UA level in whole study individuals ($r=-0.223$, $p=0.030$) and positively associated with HDL-c level ($r=0.214$, $p=0.043$). In overweight/obesity subjects, adropin level was positively associated with proportion of daily protein intake ($r=-0.278$, $p=0.029$). Adropin levels decreased significantly in patients with metabolic syndrome (6.68 ± 2.44 vs. 7.67 ± 2.13 , $p=0.036$), hyperuricemia (6.52 ± 2.42 vs. 7.52 ± 2.10 , $p=0.036$), low-HDL (6.49 ± 2.57 vs. 7.57 ± 2.08 , $p=0.036$) and NAFLD (6.73 ± 2.36 vs. 7.68 ± 2.10 , $p=0.039$), comparing with those without the disease. Irisin levels reduced significantly in patients with NAFLD (11.43 vs. 13.18 , $p=0.043$), comparing with those without NAFLD.

Conclusion & Significance: Adropin might play a beneficial role in obesity, lipid and uric acid metabolism, and the level decreased in obese, hyperuricemia, low-HDL or NAFLD patients. Irisin levels reduced in NAFLD patients.

Recent Publications

1. Lu D and Guo X (2016) Parameters of obesity in polycystic ovary syndrome. *J Rare Dis Res Treat* (2)1:19-22.
2. Lu D, Huang J, Ma X, Gu N, Zhang J, Zhang H and Guo X (2017) Rs46522 in the ubiquitin conjugating enzyme E2Z gene is associated with the risk of coronary artery disease in individuals of Chinese Han population with type 2 diabetes. *Journal of Diabetes Research* Article ID 4501794.
3. Lu D, Guo X, Li Y, Zheng B and Zhang J (2018) Insoles treated with bacteria killing nanotechnology Bio-Kil reduce bacterial burden in diabetic patients and healthy controls. *Journal of Diabetes Research* Article ID 7678310.

Biography

Difei Lu has her expertise in evaluation and passion in improving the health and wellbeing of patients with diabetes or obesity in China. Graduated as MD in Peking University Health Science Center, she works as a Specialist in Endocrinology Department at Peking University First Hospital. After the multidisciplinary team for obesity of Peking University First Hospital was launched since 2016, she participated in the clinical practice and collected data. Since then, nearly one thousand obesity patients were regularly followed up in the MDT for obesity. This approach provided a real world-based data for weight control efficacy of MDT for obesity in China.

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