

DIABETES AND DIABETIC NURSE EDUCATION CARE AND PRACTICE

September 28-29, 2018 | Montreal, Canada

Copeptin as a novel biomarker of obesity: Induced insulin resistance and metabolic syndrome

Eltabakh S, Zeidan M, Maged H, Zikry M and Kheder M
Alexandria University School of Medicine, Egypt

The objective of the study was to evaluate whether circulating Copeptin could be used as a novel biomarker associated with measures of insulin resistance and the presence of metabolic syndrome in obese individuals. The study was carried out on three groups: G1: Twenty obese individuals with metabolic syndrome, G2: Twenty age-matched obese adults without metabolic syndrome, and G3: control group: Twenty age-matched non-obese healthy adult volunteers. Both group (1) and (2) were selected to be obese with Body Mass Index (BMI) is greater than 30kg/m². All groups were subjected to complete physical examination, assessment of metabolic syndrome criteria according to the National Heart, Lung and Blood Institute (NHLBI) and the American Heart Association (AHA), fasting plasma glucose (FPG), fasting insulin, lipid profile, assessment of insulin resistance by HOMA-IR and measurement of plasma Copeptin level using ELISA technique. The results of Plasma Copeptin levels were significantly increased in G1 than the other two groups (median 38.30ng/ml for G1 vs 25.05 and 23.00 in G2 and G3 respectively, $P < 0.001$). The evident positive correlation was found between plasma Copeptin level and HOMA-IR, FBG, TG, WC, and BMI, and negative correlation with HDL level ($P < 0.05$ for HOMA-IR and FPG; $P < 0.01$ for TG, WC, BMI, and HDL). The area under the receiver-operating characteristic curve (AUC) for Copeptin was 0.79 (95% confidence interval, CI: 0.67 to 0.89).

Conclusion: Our results suggest that circulating Copeptin could be used as a possible biomarker of obesity-induced insulin resistance that provides a diagnostic advantage to measures of metabolic syndrome. Further prospective multicenter studies on a large scale of cases are needed.

yousrikh@yahoo.com