Severely obese adolescents and adults exhibit a different association of circulating levels of adipokines and leukocyte expression of the related receptors with insulin resistance.

A.E. Rigamonti, F. Agosti, A. De Col, G. Silvestri, N. Marazzi, S. Bini, S. Bonomo, M. Giunta, S. Cella, A. Sartorio

International Journal of Endocrinology Article ID 565967: 1-12, 2013.

Obese adults frequently exhibit a low-grade inflammation and insulin resistance, which have been hypothesized to be established early in childhood. Aim of this study was to evaluate the age-dependent relationships between inflammatory state and insulin resistance in obese adolescents and adults. Clinical and metabolic parameters, circulating adipokines (TNF-α, adiponectin, and leptin), ghrelin, their leukocyte receptors (TNFR1, ADIPOR2, OBRL and GHSR1a), and acute phase reactants (CRP and white blood cells) were assessed in lean and obese adolescents compared with the adult counterparts. Only obese adults had higher HOMA-IR, insulin, and triglycerides compared to the lean group. An inflammatory state was present in obese adolescents and adults, as demonstrated by the higher values of CRP and neutrophils. There were no group differences in circulating levels of TNF-α and leukocyte expression of TNFR1. Adiponectin concentrations and leukocyte expression of ADIPOR2 were higher in the lean groups than in the corresponding obese counterparts. For leptin and leukocyte expression of OBRL, the results were opposed. Circulating levels of ghrelin were higher in lean adolescents and adults than the related lean groups, while there was a higher leukocyte expression of GHSR1a in (only) lean adults than obese adults. When the analysis was performed in (lean or obese) adults, TNF-α, neutrophils, leptin, and GHSR1a were predictors of HOMA-IR. None of the considered independent variables accounted for the degree of insulin resistance in the adolescent group. In conclusion, a dissociation between the low-grade inflammation and insulin resistance is supposed to exist in the early phases of obesity.

Se desidera avere la fotocopia di questo lavoro, per esclusivo uso personale, può fare richiesta per mail a: info@cresceresani.it indicando il titolo, gli autori, la rivista e il proprio recapito lavorativo (nome, cognome, indirizzo, CAP, città).