

9th International Conference on

ENDOCRINOLOGY AND DIABETES SUMMIT

September 13-14, 2017 Singapore

Serum musclin is not associated to insulin resistance in adults with and without metabolic syndromeJuan C Calderon¹, Yeliana L Sanchez¹, Leonardo Castro¹, Juan Carlos Aristizabal¹, Mauricio Estrada², Raul Narvaez-Sanchez¹ and Jaime Gallo-Villegas¹¹University of Antioquia, Colombia²Pablo Tobon Uribe Hospital, Colombia

Myokines regulate metabolism in different tissues. Musclin is a myokine secreted by muscle fibers type II (FT-II). Since musclin induces insulin resistance (IR) *in vitro*, it could be associated to IR in patients within metabolic syndrome (MS). We aimed to evaluate the relationship between serum musclin, IR, muscle mass and area of FT-II in humans with and without MS. Patients with (n=23) and without (n=10) MS, comparable in age and sex were recruited. Medical and anthropometric assessments, biochemical tests, serum musclin measurements by ELISA, global and regional muscle mass determination by dual X-ray absorptiometry and area of FT-II in right vastus lateralis muscle estimation by proton magnetic resonance spectroscopy were performed in all patients. Muscle mass indexes for global and right thigh muscle mass (Kg muscle mass/m², Kg muscle mass/Kg body mass, Kg muscle mass/Kg fat mass) were also calculated. Homeostatic model assessment as an indicator of IR was calculated as: $HOMA-IR = ((\text{glycemia (mg/dl)}/18) * \text{insulin}(\mu\text{U/ml}))/22.5$. Patients with MS had more IR than control subjects (HOMA-IR 4.6±2.2 vs. 1.6±0.6; mean±standard error; P<0.05). There were no differences in circulating musclin or in absolute muscle values or muscle mass indexes between groups. Positive correlations between IR and both total and thigh fat mass ($r>0.46$; P<0.05) were obtained. Also, positive correlations were found between musclin and total and thigh muscle mass ($r>0.51$; P<0.05). Area of FT-II was positively associated to muscle mass indexes ($r>0.49$; P<0.05). We found an inverse tendency between IR and muscle mass ($r -0.34$; P=0.07), but we did not observe a correlation between IR and musclin. In conclusion, muscle mass was associated to the concentration of circulating musclin, however musclin was not associated to the degree of IR in patients with and without MS. These findings conflict some previously reported in other experimental models.

Biography

Juan C Calderon is a Medical Doctor, completed his PhD in Physiology. He is devoted to understand different functions of skeletal muscle. His work has been related to excitation-contraction coupling, calcium signaling and muscle fatigue.

jcalderonv00@yahoo.com

Notes: