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Sarcopenia and insulin resistance: Molecular aspects encompassing organokines**Giulia Minniti***Universidade de Marília, Brazil*

Sarcopenia is a disease that becomes more prevalent as the population ages since it is directly linked to the process of senility. Muscle atrophy and loss of muscle strength are directly linked to changes in body metabolism, especially when associated with metabolic diseases that are related to chronic inflammation. Insulin resistance, diabetes, and cardiovascular diseases are involved in a vicious, inflammatory cycle with sarcopenia, mainly at the molecular level, due to the role of some organokines. These molecules can be secreted by adipose, skeletal, and other tissues, promoting benefits or harmful effects. This study aimed to investigate how organokines act on sarcopenia in conjunction with insulin resistance.

Methodology & Theoretical Orientation: This descriptive review was based on studies published in PubMed-Medline, Embase, and COCHRANE databases.

Findings: Some organokines have a role both in sarcopenia and insulin resistance. In high concentrations, Myostatin and Interleukine-6 (IL-6) lead to insulin resistance, diabetes, and metabolic syndrome, associated with loss of muscle mass. In lower concentrations, Irisin and IL-15 can increase the risk of sarcopenia and promote insulin resistance and oxidative stress. High levels of IL-15 prevent muscle mass loss and reduce glucose levels. In high levels, leptin and Lipocalin 2 (LCN2) promote insulin resistance and sarcopenia. Fetuin-A and Leukocyte-derived Chemotaxin-2 (Lect-2) are hepatokines that, in high concentrations, promote insulin resistance, obesity, and sarcopenia. Therefore, due to the importance of organokines in the pathophysiology of sarcopenia and its metabolic aspects, understanding their actions is of great importance to the development of strategies for the prevention and treatment of these conditions.

Biography

Giulia Minniti is interested in helping promote health, especially in subjects involving metabolic disorders. This passion emerged after contact with professors who encouraged her to look differently at this area since its prevalence level has increased, in addition to arousing interest in research in medicine and patient care. She intends to continue her scientific studies after finishing medical school and joining an institution that allows her to be in contact with students and research centers, allowing the dissemination of knowledge for the collective well-being.