Metabolic syndrome and adipose tissue: new clinical aspects and ...

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Abstract -

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Metabolic syndrome and adipose tissue: new clinical aspects and therapeutic targets.

lannucci CV¹, Capoccia D, Calabria M, Leonetti F.

Author information

Abstract

The metabolic syndrome is a long-term process, explained by the interaction of genetic and environmental factors, that starts early in life and is involved in the pathophysiology of a large percentage of cases with type 2 diabetes and atherosclerosis. A number of clinical studies have demonstrated the importance of fat distribution and especially the contribution of visceral fat accumulation to the development of metabolic disorders. Visceral adipose tissue can be studied through different imaging techniques. The accumulation of visceral adipose tissue, as opposed to subcutaneous fat, increases the risk of developing metabolic disease and cardiovascular diseases (CVD). Visceral adipocytes secrete a variety of cytokines known as adipocytokines suggesting that adipose tissue is an endocrine organ that may affect the function of other organs. Weight loss, particularly a reduction in waist circumference, improves insulin sensitivity, lipid profile, and serum adipocytokines, reducing the risk of developing chronic disease and CVD. Waist circumference is a required component of metabolic syndrome under the International Diabetes Federation (IDF) criteria, rather than an optional component as used by other previous classifications. Studies have shown that using a lower waist circumference threshold within the context of metabolic syndrome increases the prevalence, but decreases the risk of mortality and type 2 diabetes. It is possible that waist circumference acts as a marker for other risk factors. These findings reinforce the notion that reductions in visceral adipose tissue should be a primary aim of strategies designed to reduce health risks associated with metabolic syndrome.

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