

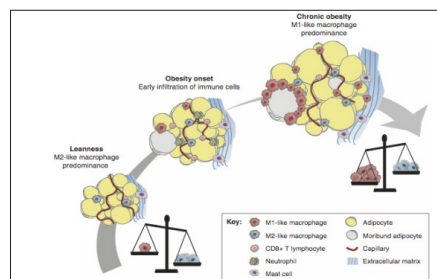
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Vienna, AustriaMendes P et al., Insights Allergy Asthma Bronchitis 2018, Volume: 4
DOI: 10.21767/2471-304X-C1-002**OBESOGENIC ENVIRONMENT INFLAMMATION-RELATED INSULIN RESISTANCE****Mendes P¹, Bitencourt, J B¹ and Heibel A B²**¹VP Research Institute. Center of Consulting in Education and Nutrition Ltda. University Cruzeiro do Sul, São Paulo, SP, Brazil.²Universidade de Brasília, Brazil

Obesity has been reaching alarming levels in the past ten years. Moreover, WHO already consider such pandemic event as worthy of concern due to the expansive costs do human and public health. Among with the malignant consequences related to a chronic obesogenic condition, insulin resistance takes place. One of the main manifestations of this clinical condition is due to a low-grade systemic inflammation, where adipocytes keep being stimulated to hypertrophy and hyperplasia by lipoprotein lipase action, triggered by the constant hyperinsulinemic environment. Research shows that structural changes can generate hypoxia, activating thus the hypoxia-inducible factor 1 (HIF-1) and culminate in the M1 macrophage polarization. Notably, these leukocytes can produce and secrete tumor necrosis factor alpha (TNF-1 α), interleukin-12 and interleukin-1 β . TNF- α in particular can trigger insulin receptor (IR) action and self-phosphorylate it in serine residues, instead tyrosine residues. Since IR belongs to tyrosine-kinase class, an inadequate phosphorylation can make it inefficient by generating an inappropriate response. Data suggests that this self-phosphorylation is crucial to the following intracellular reactions mediated by PDK and PKC, resulting thus in Glucose Transporter 2 and 4 (GLUT-2 4) releases from its vesicle and active transportation to cell cytoplasm. Furthermore, the constant stimulation and phosphorylation in serine residues, promoted by TNF-1 α release by M1 macrophages induced by adipocyte growth and accretion can lead to insulin resistance among low-grade inflammation.

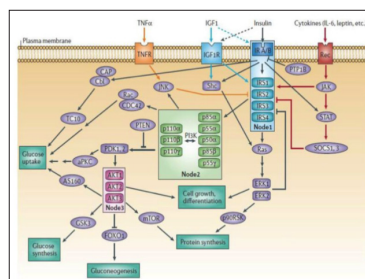
Biography

Paulo Mendes is a Nutritionist, graduated from the University Center of Brasilia. He has Specialization in Exercise Physiology from the University of Brasilia and Postgraduated in Functional Clinical Nutrition from University Cruzeiro do Sul and Positive Vitality Functional Nutrition Center. He works in clinical, sports, professional and recreational athletes, functional nutritional services, as well as teaching classes, lectures and workshops.

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