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Putative mechanisms of immune dysfunction in the pathogenesis of type 1 diabetes mellitus: A scoping review

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Type 1 Diabetes Mellitus is a complex disorder characterized by autoimmune destruction of insulin producing pancreatic beta cells. Immune dysfunctional mechanisms underlying its pathogenesis remain elusive. Immuno-toxic lifestyle habits (poor diet, inadequate sleep and lack of exercise) contribute to the pathogenesis of Immune-Mediated Inflammatory Diseases (IMIDs). There are disease models of T-cell dysfunction that describe the systemic inflammatory disease processes that underlie IMIDs. These disease models do not highlight the roles of immunotoxins in the disease

pathogenesis. Online searches were conducted on databases such as Google Scholar, PubMed, Biomed Central, and SciELO. Articles were reviewed using keywords such as Immune optimization/dysfunction, T cell activation/dysfunction, cytokines, Type 1 DM, cellular adhesion molecules and inflammatory pathogenesis. This review proposed a putative immune dysfunctional disease model for Type 1 DM, which multi-omic studies may validate. Insights from the putative disease model can guide effective therapeutic interventions.

Biography

Michael T Okafor works in Department of Pharmacology and Therapeutics, College of Medicine, University of Nigeria.