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Bacterial lipopolysaccharides (LPS) accelerates diabetes: Acute epilepsy and neurodegenerative disease

Diabetes in the world has reached epidemic proportions with mitochondrial disease related to programmed cell death in various cells. The nuclear-mitochondrial interaction in diabetes is defective with concerns that increased plasma levels of bacterial lipopolysaccharides (LPS) are involved in mitochondrial disease and programmed cell death. Western diets with overnutrition promote LPS absorption with increased plasma LPS levels. Drug therapy in diabetes has become essential to prevent mitochondrial disease but LPS effects override the drug therapeutic effects with mitochondrial apoptosis. LPS inserts itself into cell membranes and is now considered a major repressor of the anti-aging gene *Sirtuin 1* (*Sirt 1*) and is a competitive inhibitor of *Sirt 1* actions involved in the regulation of cholesterol and glucose homeostasis. LPS neutralizes apolipoprotein E relevant to membrane amyloid beta aggregation in diabetes and neurodegenerative diseases. Diagnosis of diabetes, dyslipidemia and nonalcoholic fatty liver disease may now involve plasma LPS levels in global communities to avoid inadvertent errors by other clinical tests. Healthy diets that activate *Sirt 1* actions are essential reverse chronic diseases in diabetes with low calorie diets essential to reduce LPS effects. Poor hygiene, skin lesions, microbiological food contamination and elevated intestinal LPS transport induce LPS mediated mitochondrial apoptosis that supersedes adenosine treatment relevant to recurrent epilepsy and seizures in diabetes and neurodegenerative diseases.

Biography

Ian James Martins has been invited to join the editors of various international journals and has been a reviewer for various journals (approx. 40). He was appointed as the Chief Editor for *International Journal of Diabetes Research* (2014-2017). He is a BIT Member (BIT Congress. Inc) with an H-index of 42, (ResearchGate STATs (22), Mendeley STATS (20). The total citations over the past 27 years has accumulated to 2830. ResearchGate's analysis available on google, Tweet, Facebook, LinkedIn. He has received certificates of recognition at various conferences/congresses in relation to anti-aging medicine. Prevention of over eating by food restriction improves the peripheral sink hepatic a beta clearance relevant to liver lipid metabolism important to improving health and global chronic diseases.

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