INTERNATIONAL SUMMIT ON DIABETES, ENDOCRINOLOGY, AND METABOLIC DISORDERS

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Lean Diabetes: An Emerging Challenge for Physicians

Abstract: Overweight and obesity are established risk factors for type 2 diabetes mellitus (T2DM). However, a significant proportion (11-25%) of diabetic patients are normal or underweight as determined by their BMI, leading to the term Lean Diabetes (LD). Also known as, Malnutrition-related Diabetes, Tropical Diabetes, and other names, LD does not meet the classical ADA/WHO classification of T2DM and is more like a hybrid of T1DM and T2DM. Epidemiologically, LD is predominantly seen in men of Asian or African ancestry of lower or middle socioeconomic status, with history of childhood malnutrition. The prevalence of LD is rising rapidly in the United States. Over a five-year period (2015-2020), there was a 17.8% increase in LD in adults as compared to 2.1% increase in diabetes among people with overweight or obesity. Central to the susceptibility to LD are evolutionary origin of smaller body structure with low lean mass, and the thin-fat babies born with low lean body mass and relatively higher percentage of body fat.

Maternal nutrition during pregnancy has a significant role in the birth of thin-fat babies. Recent studies brought out molecular evidence for maternal factors programming fetal cardiometabolic development. Clinically, LD has an early age of onset, severe hyperglycemia with absence of ketosis on withdrawal of insulin and has higher combined cardiovascular and non-cardiovascular mortality rate as compared to obese diabetics. LD patients also have higher prevalence of microvascular complications of diabetes. Currently, there are no specific guidelines for the clinical management of LD. Therapeutic strategies should aim to increase insulin secretion and decrease insulin resistance. To achieve this goal, a combination of GLP-1 receptor agonist (to increase insulin secretion) and a glitazone (to decrease insulin resistance) appears to hold promise. Thus, the problem of LD is huge and so it needs global response.

ISBN: 978-1-917892-09-4

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Keywords: Lean Diabetes, Atypical Diabetes, Tropical Diabetes, Obesity, Maternal Nutrition, Fetal Programming

Biography:

Prof. Bellamkonda Kishore, MD, PhD, MBA, is an academician and innovator, and has recently turned to entrepreneurship. His research focuses on purinergic signaling as it relates to obesity and metabolic syndrome, and diseases of the kidney. He developed and patented innovative therapies and launched a startup to commercialize them. Currently, he is the President, CEO & CSO of ePurines, Inc., while continuing as an Adjunct Professor of Internal Medicine at the University of Utah Health in Salt Lake City, Utah. In recognition of his innovative work, Dr. Kishore was inducted as a Senior Member of the National Academy of Inventors.

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