Lalit Singh Pukhrambam, J Diabetes Metab 2017, 8:11 (Suppl)
DOI: 10.4172/2155-6156-C1-074

Lalit Singh Pukhrambam

Wayne State University School of Medicine, USA

ABCDEs of DIA.BESIT.HY: Combating diabetes, obesity and hypertension in modern era

Diabetes, obesity and hypertension (DIA.BESIT.HY) are diseases associated with lifestyle changes in this modern era with development and consumption of readymade and easily accessible high caloric and high sodium rich processed foods and drinks. As obesity increases in an epidemic proportion, both in developed and developing countries including India, China and Middle-East countries where a large percentage of world population reside, the incidence of diabetes and hypertension also increase causing cardiovascular and neuronal diseases as well as renal and retinal micro-vascular complications. Therefore, there is tremendous socio-economic burden from these diseases to the working population of the world and their families and societies at large. Hence, there is urgent need for combating these chronic diseases simultaneously and individually. In addition, because of the nature of these diseases in etiologies depended on gene-environment interaction, ethnic variations may occur in disease development and progression. Therefore, ethnic-based and individualized treatments (personalized or precision therapies) are important aspects to consider while treating these diseases. The ABCDEs method described here includes checking or preventing the development of these diseases. Briefly, at normal levels, A=A1C is glycemic index (5-6%), B=Blood pressure (80/120) and C-LDL Cholesterol (<100 mg/dl) while D=Diet and Drugs (low fat, low sugar and low sodium diets with appropriate drug treatment and medication); Es=Exercise and patient education about these diseases. Thus, these parameters are important for checking DIA.BESIT.HY in modern societies. Both the physician and the patient will require having in mind these parameters while treating the diseases. On a molecular level, recent studies have shown that a protein called Thioredoxin-Interacting Protein (TXNIP) is highly induced by diabetes and obesity and cause cellular oxidative stress, insulin resistance, inflammation and premature cell death and disease progression. Blockade of TXNIP expression has been shown to prevent diabetes and obesity in experimental animals. Interesting, anti-hypertensive drugs Verapamil and Ramipril suppress TXNIP and therefore may have beneficial effects in treating DIA.BESIT.HY. Much research is however needed in large scale to develop ABCDEs and TXNIP targeting drugs to combat these modern ailments.

Biography

Lalit Singh Pukhrambam is an Associate Professor at Wayne State University School of Medicine, Detroit, Michigan, USA, in the Departments of Anatomy/Cell Biology and Ophthalmology. He obtained his Ph.D. from the Indian Institute of Science, Bangalore, India. He was a recipient of the American Diabetes Association Career Development Award and the Robert Schrier MD Young Investigator Grant of the National Kidney Foundation (NKF), USA. His research has also been supported by JDRF, USA, Eye-Banks, USA, and NIH/NEI grants. His research interests involve molecular and cellular mechanisms of diabetes and its complications particularly of the eye and kidney and gene therapy approaches.

Ak1157@wayne.edu, plsingh@med.wayne.edu