Kyung-Hyun Cho, Transl Med 2014, 4:3
http://dx.doi.org/10.4172/2161-1025.S1.011

OMICS Group Conferences
Accelerating Scientific Discovery

3rd International Conference on
Translational Medicine
November 03-05, 2014 Las Vegas, USA

Kyung-Hyun Cho
Yeungnam University, Republic of Korea

Change of high-density lipoprotein (HDL) in aging-related disease as reliable biomarker

It has been reported that glycation could also occur in high-density lipoproteins (HDL) in blood. High-density lipoprotein-cholesterol (HDL-C) is inversely associated with incidence of cardiovascular disease and is directly related to longevity. In type 2 diabetes patients, blood infusion of rHDL caused reduction of plasma glucose levels by increasing plasma insulin in pancreatic beta cells, which raised the feasibility of a wider clinical application of rHDL from cardiovascular disease to diabetes. The glycation resulted in severe loss of beneficial functions of HDL regarding anti-senescence and anti-diabetic, and anti-atherosclerosis activity due to functional and structural modification with increased protein degradation. To compare the change in lipoprotein metabolism with aging, we analyzed the lipid and protein compositions of individual lipoprotein fractions. Healthy and non-obese elderly subjects (elderly group, n=26) had a serum lipid profile within the normal range, although slightly higher than in young subjects (control group, n=18). However, the elderly group had a 2-fold higher serum uric acid level and triglyceride (TG)/high-density lipoprotein (HDL)-cholesterol ratio. The elderly group had less antioxidant ability and elevated TG content in HDL with enhanced cholesteryl ester transfer activity. An elevated level of advanced glycated end products in lipoproteins and fragmentation of apoA-I were present in the elderly group, with detected lower apoA-I level and more multimerizedapoA-I in HDL. The protein levels of apoA-I, apoC-III, and serum amyloid A in lipoprotein-deficient serum were increased in the elderly group.

Biography

Kyung-Hyun Cho obtained his PhD from the Kyungpook National University of South Korea in 1998 and gained his Postdoctoral training at the University of Illinois at Urbana-Champaign until 2000. He joined Cleveland Clinic Foundation as a Research Doctor until 2001. Back home, he worked at Korea Research Institute of Bioscience and Biotechnology as senior scientist for 4 years. Then he moved to the Yeungnam University (YU), in 2005, where he is currently the Full Professor (tenured) and Head of the Research Institute of Protein Sensor (RIPS) and BK21 plus Serum Biomedical Research and Education Team in the YU. He published more than 70 papers in well known journals and filed more than 20 patents.

chok@yu.ac.kr