Title: Differential association between metabolic syndrome and coronary artery disease evaluated with cardiac computed tomography according to the presence of diabetes in a symptomatic Korean population

Authors:

Ki-Bum Won (kbwon99@naver.com)
Hyuk-Jae Chang (hichang@yuhs.ac)
Gue-Ru Hong (grhong@yuhs.ac)
Jimin Sung (jmsung77@gmail.com)
Sanghoon Shin (NEPHILLA@yuhs.ac)
In-Jeong Cho (injeongcho@naver.com)
Chi-Young Shim (cysprs@yuhs.ac)
Young-Jin Kim (dryj@yuhs.ac)
Byung-Wook Choi (bchoi@yuhs.ac)
Namsik Chung (namsikc@yuhs.ac)

Version: 2 Date: 17 March 2014

Author's response to reviews: see over
March 17, 2014

Timothy Shipley
Executive Editor
BMC Cardiovascular disorders

Title: Differential association between metabolic syndrome and coronary artery disease evaluated with cardiac computed tomography according to the presence of diabetes in a symptomatic Korean population

Dear Timothy Shipley,

We would like to submit our manuscript entitled “Differential association between metabolic syndrome and coronary artery disease evaluated with cardiac computed tomography according to the presence of diabetes in a symptomatic Korean population” for publication as an Original Article in the BMC Cardiovascular disorders.

Metabolic syndrome (MetS) has been promoted as a means for identifying the risk of diabetes development. Diabetes significantly impact on the development of coronary artery disease (CAD), and the majority of diabetic subjects have MetS which represents major phenotype of insulin resistance. Recently, WHO strongly recommended that conditions with established diabetes should be excluded from MetS. Accordingly, it should be necessary to explore the association between MetS and coronary atherosclerosis according to diabetes status. In addition, considering that impaired insulin secretion is more prominent than insulin resistance in diabetic status among Asian population, the identification of this issue might be more important in Asian population. However, there is a paucity of data on the association between MetS, individual MetS component, and CAD according to diabetes status, especially in Asian population.

Our paper highlights the massage that MetS, the individual MetS components, and the number of MetS components are independently associated with the presence and severity of CAD only in the non-diabetic subjects, and none of them are significantly associated with the presence and severity of CAD in diabetic subjects. These results may suggest that the progression of coronary atherosclerosis is influenced by multiple metabolic risk factors in non-diabetic subjects but is predominantly dependent on long-term hyperglycemia in subjects with established diabetes status.

We believe that this timely investigation provides a proper insight for the application of MetS with respect to CAD, especially in an Asian population. In addition, this study also provides compelling evidence against the inclusion of established type 2 diabetes in MetS.

All authors have read the manuscript and approve of submission. The manuscript has not been published previously, nor is it being considered for publication elsewhere in whole or part in any language except as an abstract.

None of the investigators have any financial relationships with any company or any other biases or conflicts of interest.

Thank you in advance for your time and consideration. I look forward to hearing from you at your earliest convenience.

Sincerely yours,

Hyuk-Jae Chang MD PhD