

Comparison of Serum Adipocytokine Levels according to Metabolic Health and Obesity Status (*Endocrinol Metab* 2015;30:185-94, Tae Hoon Lee et al.)

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First, we wish to express our great thanks to Prof. Kim for choosing our article and for noting an important point in our study. During the past few years, metabolically healthy obesity (MHO) has been a hot topic of debate in the field of obesity because its definition differs slightly from that of metabolic syndrome and because the inclusion of insulin resistance and systemic inflammatory markers such as high-sensitivity C-reactive protein (hs-CRP) in its definition is advantageous [1]. However, recently published review articles and meta-analyses have argued against the existence of MHO as a specific phenotype of obesity [2-4]. These review papers are skeptical about the existence of “healthy obesity” in terms of the development of cardiovascular disease, mortality, and diabetes.

The reason for this discrepancy could be due to differences in ethnicity or study populations. However, the main reasons are thought to be the absence of a unified definition of MHO and differences in the duration of time that the subjects had been “metabolically healthy” and “obese” among individual studies. A very recent article by Hamer et al. [5] discussed the stability of MHO. They followed 2,422 participants in the English Longitudinal Study of Ageing for a median of 8 years and found that 44.5% of healthy obese people had transitioned into an unhealthy state, compared with only 16.6% and 26.2% of healthy adults of normal weight and overweight adults, respec-

tively. These results suggest that a healthy obese phenotype is relatively unstable. Based on these results, we must consider not only the current status of a patient with MHO, but also how long the patient has had an MHO or obese status; a considerable portion of those with MHO might convert to a metabolically unhealthy obese status during the follow-up secondary to the deleterious effects of obesity itself.

In our study published in volume 30, issue 2 of *Endocrinology and Metabolism* (EnM), we showed that among the adipocytokines measured in our study subjects, high concentrations of tumor necrosis factor α and adipocyte fatty acid binding protein were significantly associated with metabolically unhealthy status in non-obese individuals [6]. Although MHO is being discussed more than other phenotypes, we focused on the concentrations of these adipocytokines in metabolically unhealthy non-obese subjects. Based on the results of our paper, we can assume that increased adipocytokine concentrations serve as an indicator for determining metabolic health in these subjects, as shown in previous studies [7,8]. We recommend the inclusion of these adipocytokine levels in the definition of metabolic health, if possible.

Unfortunately, we could not analyze the statistical differences in adipocytokine concentrations according to the different definitions of MHO, such as that including hs-CRP, because

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we did not have data on hs-CRP concentrations in the whole study population. We agree with Prof. Kim in that the results could have differed according to the different definitions of MHO. We also agree with Prof. Kim that a longitudinal study that includes both baseline and follow-up adipocytokine concentrations and the metabolic status of the participants would uncover the exact relationship between adipocytokines and metabolic health.

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CONFLICTS OF INTEREST

No potential conflict of interest relevant to this article was reported.

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