
To the Editor:

We read with great interest the work by Tsukinoki et al1 that reported that increased blood pressure is an important determinant of cardiovascular disease (CVD) risk irrespective of body mass index, and its effect tends to be weaker in people with relatively high body mass index. Moreover, we think this report may provide some evidence to partly explain the phenomenon of obesity paradox. Obesity paradox, also called reverse epidemiology, refers to a lower death rate in an obese population observed among those with established CVD, heart failure, dyslipidemia, or end-stage renal disease.2,3 Possible mechanisms have been postulated to explain this phenomenon, including malnutrition–inflammation complex syndrome, endotoxin–lipoprotein hypothesis, survival bias, reverse causation, and discrepancies among competitive factors.2,4 However, these hypotheses seem to not answer the epidemiology puzzle adequately because few reports were aimed to investigate the interaction and association between risk factors for CVD and body mass index.

As we know, hypertension is a predictor of death in patients with established CVD. According to the study, systolic blood pressure has lower risk for the development of CVD in overweight or obese patients than normal- or under-weight ones. Similarly, in the Justification for the Use of Statins in Primary Prevention: An Intervention Trial Evaluating Rosuvastatin (JUPITER) trial, inflammation that was reflected by C-reactive protein was found to have a lower impact on CVD occurrence in obese populations as well.4,5 Accordingly, we believe that the inert factors such as systolic blood pressure and inflammation are affected by body mass index to produce a different impact on not only the development of CVD among healthy population but also death of patients with established CVD. A subsequent study should be emphasized to test the interaction between blood pressure and body mass index in patients with established CVD to find out more about the phenomenon of obesity paradox.

Disclosures

None.

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Letter by Lin et al Regarding Article, "Does Body Mass Index Impact on the Relationship Between Systolic Blood Pressure and Cardiovascular Disease? Meta-Analysis of 419 488 Individuals From the Asia Pacific Cohort Studies Collaboration"
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