Author's Reply

We are on the Way to Finding the Cutoff Point for High-Sensitivity C-Reactive Protein in Japanese

Dr Oda raised an interesting point that the C-reactive protein (CRP) level of 0.65 mg/L could be useful as a cutoff point to detect Japanese subjects with metabolic syndrome who are at risk for cardiovascular disease, and also may be as a cutoff point for other ethnic groups. Our results¹ agree with his opinion regarding the necessity of a Japanese-specific cutoff point for CRP, which may be considerably lower than those proposed by the American Heart Association and the Centers for Disease Control and Prevention (low risk: <1 mg/L, average: 1–3, high: >3).² Furthermore, this concept is supported by other epidemiological studies.^{3–7}

However, as we reported, we need to be prudent in discussing detailed values of a Japanese-specific CRP cutoff point at this moment. Firstly, cross-sectional studies are not an ideal design for determining the cutoff point of CRP,^{1,3–5} because a cause–effect relationship cannot be ascertained. Secondly, it is broadly known that the associations of atherosclerotic risk factors with coronary events are continuous,⁸ so their cutoff points have been determined to some extent arbitrarily from numerous evidence.⁹ This could be also the case for CRP, as most studies have shown a dose-response relationship between CRP and cardiovascular risk.^{1,3–5,10–12} Therefore, prospective studies with hard endpoints, such as myocardial infarction, are needed to determine an appropriate cutoff point of CRP for detecting Japanese patients at high coronary risk.

Meanwhile, extrapolation of Japanese data to other ethnicities should be conducted carefully. Although the Chinese population would appear to have a similar distribution of CRP as Japanese,^{10,13} some Korean studies have shown a higher mean or median concentration of CRP than that reported in Japanese studies.^{14,15} Particularly, if we are to apply a cutoff point of 0.65 mg/L to Westerners, approximately 80% of general population would be considered abnormal.^{11,12} This seems to confuse people and also medical practitioners. Thus, the cutoff points of the American Heart Association and the Centers for Disease Control and Prevention seem to be applicable for Caucasians, because these cutoff points almost correspond to their tertiles of CRP.²

Nevertheless, evidence is accumulating that the Japanese population has a much lower CRP level than Caucasians, even in those at high coronary risk.^{1,3–7} Therefore, we can safely say that medical practitioners should pay close attention to these findings when they evaluate CRP levels of their Japanese patients and not to overlook Japanese at high coronary risk according to the existing cutoff points.²

References

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