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Reply

We are grateful to Drs. Heston and Wahl for their valuable comments and suggestions to our study (1). They pose a question regarding the use of a fixed threshold value for continuous data, such as a washout rate of iodine-123 metaiodobenzylguanidine (MIBG WR) for the prediction of prognosis, and propose an alternative way to figure out and report such continuous variables. Although the method they propose is indeed intriguing, we think there remain a few important problems to be discussed.

First, the clinical implication of the reference values that they propose would vary depending on the outcome to which the continuous variable is related. For example, in the case where the outcome is sudden cardiac death (SCD) as in our study, the patients with variables near the crossover point would be regarded as life-threatened patients, because they may belong to those with a high risk of SCD, at a rate as high as 50%. Such patients might be regarded as the good candidates for implantable cardioverter-defibrillator therapy in most cases.

In dealing with the issues of life-threatening events like SCD, we think we should put more emphasis on not overlooking the patients at high risk than on not overlooking those at low risk. The threshold of MIBG WR >27% would be appropriate for this purpose, because a negative predictive value as high as 92% could be achieved with this threshold in our study patients (1).

Second, there may be a limitation on the method by Drs. Heston and Wahl, because their calculation is based on the assumption that the results of cardiac MIBG WR exactly follow a normal distribution. In fact, the specificity of abnormal MIBG WR (>27%) for the prediction of SCD was 56% (1), which is different from (higher than) the specificity calculated by Drs. Heston and Wahl.

However, we agree with the suggestion by Drs. Heston and Wahl that there are some borderline cases that require difficult decision making, and that we should not rely only on the fixed MIBG WR value for the identification of the patients at high risk for SCD. The only way to deal with these borderline cases might be to take other clinical indexes that have been shown to be highly predictive of SCD (i.e., left ventricular ejection fraction, electrocardiographic parameters such as T-wave alternans [2], or clinical scores [3]) into account and judge the risk for SCD on a case by case basis.

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