this possibility, in the VALUE study, we evaluated the effect of baseline HR on incident HF occurring separately in each year of the trial (2). If tachycardia were a marker of subclinical congestive HF, a stronger association would be expected in the early phases of the follow-up with an attenuation in later years. However, the association between high HR and incident HF was present throughout the trial and was significant even at the fifth year.

To see whether this finding obtained in a hypertensive sample also holds true within a general population, we encourage the MESA investigators to analyze the predictive power of baseline HR by using the same statistical procedure.

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REPLY: Resting Heart Rate: An Independent Predictor of Congestive Heart Failure

We thank Drs. Palatini and Julius for their interest in our recent work (1). Indeed, in the MESA (Multi-Ethnic Study of Atherosclerosis) study, with participants without cardiovascular disease (CV) at enrollment, we found an increased risk for incident heart failure (HF) among those with elevated resting heart rate (HR). We appreciate that in the VALUE (Valsartan Antihypertensive Long-term Use Evaluation) trial extensive analyses of resting HR and incident HF were made in a large sample of hypertensive patients with high cardiovascular risk on antihypertensive treatment (2). Unfortunately, in-trial HR measurements were not a part of our study (1).

We agree that a possible relationship between HR and coronary events may have been unrecognized in our study due to power issues. On the other hand, this does not prove the existence of such a relationship in a population without clinical CV diseases at enrollment, and alternative mechanisms may also contribute or coexist. Moreover, in our study, the resting HRs were somewhat lower than in the hypertensive patients in the VALUE trial, probably reflecting a healthier population.

Using a statistical procedure similar to that in the VALUE trial, we evaluated the effect of baseline HR on HF events occurring separately for each 2-year interval of follow-up. In this post hoc analysis, a significant association was found between resting HR and HF events occurring during the first 2-year follow-up interval. In a multivariate Cox model, the hazard ratio (HR) for the highest baseline HR quartile (HR >70 beats/min) was 2.37 (95% confidence interval: 1.13 to 5.01) compared to the 3 lower quartiles (HR <70 beats/min). However, no significant associations were found between HR and HF events occurring after the first 2 years. Thus, in contrast to the hypertensive sample in the VALUE study, in our study population without CV disease at baseline, one cannot exclude the possible relationship between latent left ventricular dysfunction and elevated HF. More studies of the relationship between resting HR and CV disease are certainly needed and we thank you for your valuable contributions to this field.

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