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Reply to:

Left ventricular midwall fibrosis as a predictor of sudden cardiac death in non-ischaemic dilated cardiomyopathy: a meta-analysis

We appreciate the comments regarding our recent manuscript on assessing the value of left ventricular (LV) midwall late gadolinium enhancement (LGE) in predicting sudden cardiac death (SCD) endpoint in patients with non-ischaemic dilated cardiomyopathy (NICM)[1] and raising the controversial issue regarding implantable cardioverter defibrillator (ICD) placement in the treatment of NICM patients with presence of LV midwall LGE. First, we selected articles with diagnostic criteria of NICM in accordance with the World Health Organization recommendation[2]; therefore, all patients with the significant primary valvular disease were excluded. Additionally, medical treatment has been provided in Table 1. Moreover, the proportion of NICM patients with New York Heart Association class II to IV and left anterior branch block is 86.7% (1556/1796) and 26.2% (370/1414), respectively, according to the available data.

In the study of Køber et al.,[3] among patients with NICM and LV ejection fraction (EF) ($\leq$35%), who were randomly assigned to an ICD or clinical care, the investigators found that an appropriate ICD therapy cannot be translated to lower all-cause mortality. Thus, it is imperial to precisely identify high-risk patients with NICM who are most likely to benefit from ICD therapy. In our study, the proportion of SCD endpoint is similar between subgroup with LV dysfunction ($<$35%), and with the LVEF $\geq$ 35%, the negative predictive value of LV midwall LGE on predicting SCD event is excellent and the numbers of ICD required to prevent one major event based on the presence of LV midwall LGE are low, which implied that NICM patients with LV midwall LGE could likely benefit from ICD placement regardless of LVEF. This conclusion was based on presented data and subgroup analysis by LVEF. We agree that the clinical decision of ICD placement is currently based on the evaluation of LVEF. However, some patients with NICM underwent LV reverse remodelling after the guideline-directed medical therapy.[4] In these cases, many patients with the dysfunction could recover. Therefore, it certainly needs better biomarkers of risk stratification in patients with NICM.

We agree that the ICD placement can lead to short-term and long-term complications. However, the focus of our discussion of the present study is on the risk of SCD occurrence, and this conclusion provides potential clinical guidance for ICD placement. Thereby, we wish to point out the SCD predictive value of LV midwall LGE in patients with NICM. Rather, more prospective studies are needed to assess whether LV midwall LGE could be the main criterion of ICD treatment.

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