Is T1-Mapping Truly Superior to Late Gadolinium Enhancement-Imaging in Demonstrating Myocardial Fibrosis in Myopathy- and Non-Myopathy Associated Noncompaction?

To the Editor:
With interest we read the article by Zhou et al about 31 left ventricular hypertabulation/noncompaction (LVHT) patients who underwent cardiac MRI for evaluation of late gadolinium enhancement (LGE) and T1-mapping. Of these, 14 patients were LGE-positive (LGE+) and 17 were LGE-negative (LGE−). Mean native T1-values were elevated in the LGE− as well as the LGE+ LVHT patients, suggesting that elevated T1 values indicate early fibrosis not visible on LGE imaging. We have the following comments and concerns.

We do not agree with the statement that higher T1-values in LVHT patients as compared with LGE+ LVHT patients. This is a crucial point because many NMDs develop cardiac involvement in the form of myocardial fibrosis, suggesting that fibrosis associated with LVHT might in fact result from the underlying NMD and not from LVHT.

Table 1 in the paper indicates that the family history was significantly more often positive for LVHT in LGE− LVHT patients as compared with LGE+ LVHT patients. What is the explanation for LGE− LVHT patients more frequently having a positive family history for LVHT than the LGE+ LVHT patients? The finding suggests that LGE− LVHT patients more frequently have a genetic background than LGE+ LVHT patients. Did the LGE− LVHT patients indeed more frequently present with genetic disease than the LGE+ LVHT patients? Was this only the case for the 8 LGE− LVHT patients with a family history positive for LVHT? Were family members of LGE− LVHT patients with LVHT also more frequently LGE− than LGE+? How to explain that LGE+ LVHT patients more frequently presented with chest pain than LGE− LVHT patients? Concerning patients with familial LVHT, which was the trait of inheritance?

Overall, this interesting study should also address the relation between fibrosis due to cardiomyopathy in NMDs and fibrosis due to LVHT. Furthermore, causes other than fibrosis, which could result in elevated T1, such as heart rate or low haemoglobin, should be addressed. Finally, group sizes should be increased to draw final conclusions.

References

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