GW23-e1991

INITIAL RESEARCH OF THE CLINICAL ROLE OF LATE GADOLINIUM ENHANCEMENT IN THE HYPERTROPHIC CARDIOMYOPATHY

doi:10.1136/heartjnl-2012-302920q.9

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Objectives To investigate the correlation between clinical features and the extent of myocardial hypertrophy and late gadolinium enhancement (LGE) in hypertrophic cardiomyopathy.

Methods Seventy-nine consecutive patients with hypertrophic cardiomyopathy underwent cardiac MRI examination, first performed routine cardiac structure and function imaging followed by LGE. The myocardial thickness, left ventricular ejection fraction, left ventricular end-diastolic volume and other parameters were calculated according to the traditional 17 sectional method. LGE score was evaluated to each patient, too.

Results There were 633 hypertrophic segments in the total 1343 enrolled segments, most located in the anterior interventricular septum (segment 2, n=64), following by segment 9, 3 and 8 with the hypertrophic segments number of 58, 57 and 57, respectively. LGE were positive in 433 segments, which most located in the anterior interventricular septum (n=64), too, following by segment 8, 9 and 14 with positive number of 39, 37 and 36, respectively. The diameter of left atrium and LGE positive were the independent risk factor of atrial fibrillation (HR=1.11, 1.12, respectively; $p<0.01$), and the area under the ROC was 0.726 and 0.743, respectively. LGE positive was the independent risk factor of non-sustaining ventricular tachycardia (NSVT) (HR=1.15; $p<0.01$) and the area under the ROC was 0.817.

Conclusions The hypertrophic segments and LGE distribute asymmetrically in hypertrophic cardiomyopathy patients, and LGE was the independent risk factor of atrial fibrillation and NSVT.