

G-C-5

Long Term Reliability of Serial Echocardiographic Measurement in Detecting Regression of Left Ventricular Hypertrophy: Comparison with Magnetic Resonance Imaging

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Background: Recent studies suggested that echocardiography have high reliability in short-term measurement of LV mass. As LV mass regression may be asymmetrical, the long-term reliability of serial echocardiographic measurement in detection of LV hypertrophy regression remains unclear. This study was sought to validate the reliability of serial echocardiographic measurements in detecting of left ventricular (LV) hypertrophy regression by using magnetic resonance imaging (MRI).

Methods: We studied 42 patients enrolled into the *Prospective Randomized Enalapril Study Evaluating Regression of Ventricular Enlargement* trial for evaluating LV hypertrophy regression. LV mass was measured by both echocardiography and MRI at baseline and after 1 year.

Results: Twenty patients completed the study protocol and had paired echocardiography and MRI performed. As compared to baseline, the systolic and diastolic blood pressure, and the LV mass measured by both echocardiography and MRI were significantly decreased after 1 year (all $p < 0.05$). LV mass measured by echocardiography at baseline (216 ± 34 vs 189 ± 53 gram, $p = 0.005$) and after 1 year (196 ± 36 vs 159 ± 42 gram, $p < 0.001$) were greater, but their percentage changes (9 ± 7 vs $15 \pm 7\%$, $p = 0.024$) was smaller than those measured by MRI. The LV mass measured by echocardiogram was positively related to those measured by MRI ($r = 0.7$, $p < 0.01$), but not their measured LV mass differences between baseline and after 1 year ($r = 0.17$, $p = 0.46$).

Conclusions: Echocardiographic measurement of LV mass using a standardized protocol showed a good correlation with those by MRI. However, in comparison with MRI, echocardiography overestimated the LV mass by 20% at baseline and 27% after 1 year, which resulted in underestimation of the serial changes in LV mass by 33%.

G-C-6

Is Radiofrequency Catheter Ablation of Symptomatic Ventricular Ectopics Justified?

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Background: Frequent premature ventricular ectopics (PVC) in patients (pts) with no structural heart disease can be very symptomatic.

Methods: We randomized 40 pts with >100 PVC/hour and moderate to severe symptoms to receive radiofrequency catheter ablation (RFCA) or conventional beta-blocker (BB) therapy. The RFCA group ($n = 20$) and BB group ($n = 20$) had similar clinical characteristics and PVC counts at baseline. There were 10 pts (25%) that had more than one single morphology of PVC. Right ventricular outflow tract was the most common site of origin (85%). RFCA was guided by pace-mapping of the PVC. BB was taken regularly or when required in pts who received conventional treatment.

Results: In the RFCA group, 19 (95%) pts had successful ablation. The mean procedure time was 123 ± 40 minutes, and mean fluoroscopy time was 33 ± 16 minutes. Symptom of palpitation was completely relieved in all pts after successful ablation. The mean PVC count per pt decreased from 721 ± 426 /hour to 39 ± 34 /hour ($p < 0.001$). No acute complication was encountered. There was 1 pt (5%) with recurrence that was treated successfully by a second procedure. In the BB group, 4 pts (20%) had complete symptomatic relief, 6 pts (30%) had symptomatic improvement, 6 pts (30%) remained the same, and 4 pts (20%) had worsening of symptoms. The mean PVC count decreased from 692 ± 510 /hour to 532 ± 486 /hour in the BB group ($p = \text{NS}$). Side effects of BB were reported in 4 pts (20%).

Conclusions: This result suggests that RFCA is associated with a high rate of cure and appears superior to BB in the treatment of frequent and symptomatic PVC. However, BB may suppress symptoms of PVC in some pts and should be tried if drug treatment is required.