



Imaging

QUANTITATIVE ANALYSIS OF ENDOCARDIAL AND EPICARDIAL LEFT VENTRICULAR MYOCARDIAL DEFORMATION IN PATIENTS WITH CARDIAC AMYLOIDOSIS

Moderated Poster Contributions

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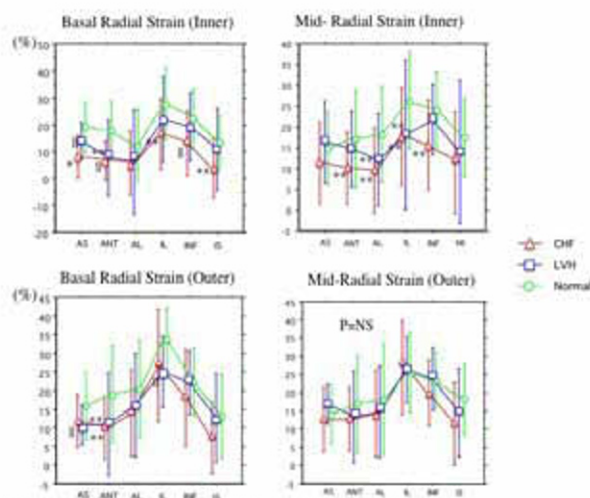
Authors: *Masatoshi Minamisawa, Ayako Minamisawa, Jun Koyama, Kazunori Aizawa, Hiroki Kasai, Atsushi Izawa, Takeshi Tomita, Yusuke Miyashita, Uichi Ikeda, Shinshu University School of Medicine, Matsumoto, Japan*

Background: Recent studies using cardiovascular magnetic resonance imaging demonstrated subendocardial deposition of amyloid protein in patients with cardiac amyloidosis (CA). We hypothesized that subendocardial dysfunction due to amyloid deposition exists in patients with CA.

Methods: We examined 97 patients with CA. Patients were divided into 3 groups. Group 1 patients had no evidence of cardiac involvement (n=36), group 2 had heart involvement but no congestive heart failure (CHF) and /or serum BNP levels<100pg/ml (n=17), and group 3 had heart involvement and CHF (n=44). All patients underwent conventional and speckle tracking echocardiography with commercially available echo equipment (Philips, iE-33). Basal, mid- short axis views and apical views were used to examine circumferential, radial, and longitudinal strains of inner half and outer half layers of LV wall using research software QLAB TMQA.

Results: There were no significant differences in circumferential inner and outer strain among 3 groups in basal and mid LV. As to radial strain, group 3 showed severely depressed inner radial strain compared to groups 1 and 2 in basal and mid LV (P<0.0001 by ANOVA). There was no significant difference in outer radial strain among 3 groups. Longitudinal strains in inner layer were significantly depressed in group 3 (CHF) as well as those in outer layer compared to groups 1 and 2.

Conclusion: Endomyocardial radial systolic dysfunction exists predominantly in basal and mid-LV in patients with symptomatic CA.



*, P<0.0001 vs. group 1; †, P<0.0001 vs. group 2; ‡, P<0.001 vs. group 1; §, P<0.001 vs. group 2; ||, P<0.01 vs. group 1; #, P<0.01 vs. group 2; **, P<0.05 vs. group 1; ††, P<0.05 vs. group 2; NS, not significant