STANDARD LEFT ATRIAL VOLUME SCALE OVERESTIMATES DISEASE

ACC Moderated Poster Contributions
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Background: The American Society of Echocardiography (ASE) published a scale for left atrial (LA) enlargement based on indexed volume (LAVi). We have observed a large percent of patients with otherwise normal hearts with enlarged LA by this scale. We hypothesized the scale is highly sensitive but poorly specific for LA enlargement.

Methods: We applied the ASE scale to a group of healthy volunteers (HV) who underwent a transthoracic echo. Next, a new normal LAVi was determined from the HV using Mean ± 1 SD. We tested the ASE and new HV LAVi scales to differentiate pathologic enlargement in patients undergoing cardiac catheterization using pulmonary capillary wedge pressure (PCWP) as the gold standard.

Results: When we applied the ASE scale LAVi 22±6 ml/M² to the group of 109 HV (ages 18-55, 36% men), 89% had LA enlargement. We then developed a new normal LAVi scale from the HV group: 37±8 ml/M². We applied both ASE and HV scales to a validation group of 33 patients (ages 29-85, 30% men) undergoing cardiac catheterization, using mean PCWP ≤ 12 mmHg as the definition of normal. The specificity increased from 32 to 82% using the HV scale to identify LA enlargement.

Conclusions: The ASE scale identifies LA enlargement with high sensitivity, but very poor specificity. This causes unnecessary patient concern, referrals and cost. Given adjunctive echo criteria used in grading diastolic dysfunction, specificity in grading LA size is preferred over sensitivity to avoid misclassifying many normal patients as having LA enlargement.