Apical Sparing In Amyloid Strain Imaging: *The Cherry-On-Top!*

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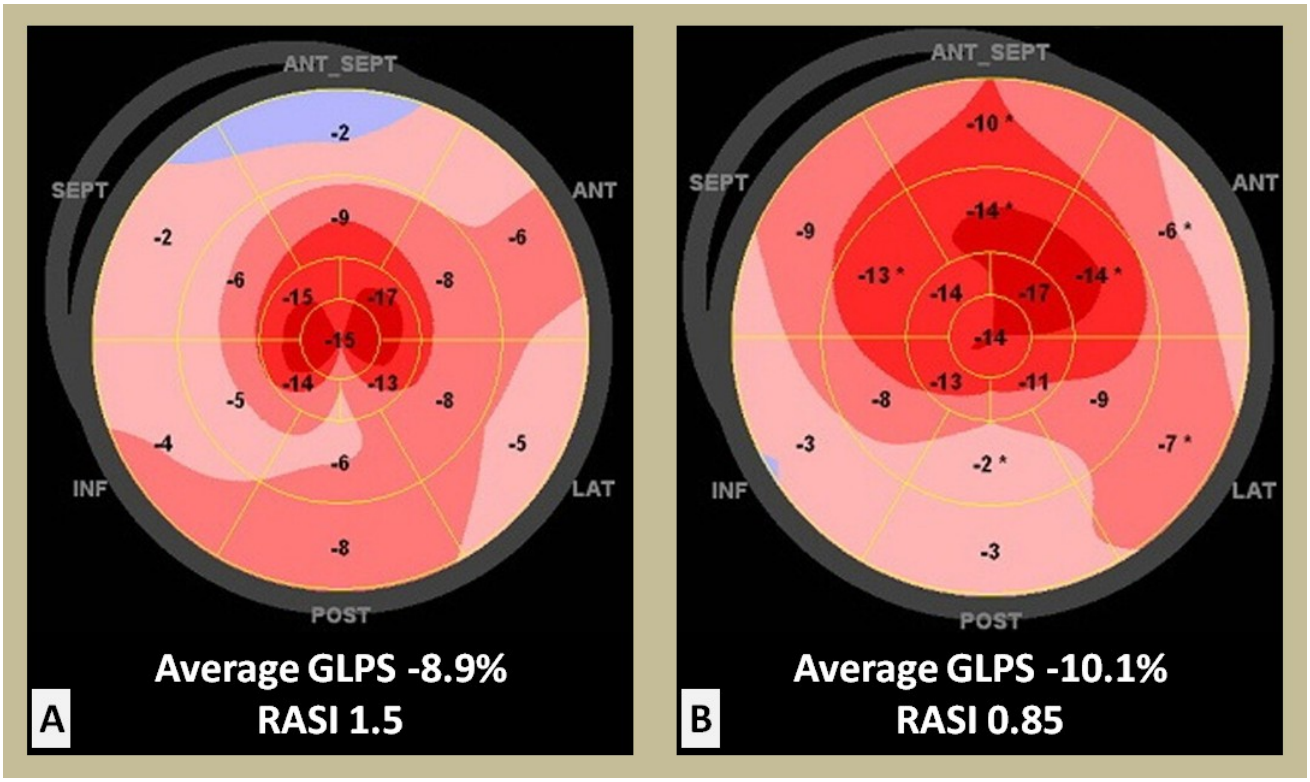

Description

Myocardial strain imaging has emerged as a valuable tool in the diagnosis and assessment of various cardiomyopathies [1]. The above two images demonstrate a bull's eye plot of the global longitudinal peak strain (GLPS) showing a low average GLPS; normal being lower (more negative) than -16% to -18% [2].

In figure A, the size of the cherry-on-top is smaller, restricted mostly to the apical segments, with an average apical strain to average-mid plus average-basal strain ratio (relative apical sparing index; RASI) of 1.5 [3]. This satisfies the value of ≥ 1 suggested to reflect amyloid infiltrative cardiomyopathy [4].

In figure B, there is a large cherry-on-top extending into the mid to basal segments, causing the RASI to be 0.85, which is less than the value of ≥ 1 suggested to reflect amyloid heart disease.

Discussion

Echocardiographic myocardial strain from all cardiac chambers, especially the left atrium, was shown to have significant prognostic relation to survival in patients having biopsy-proven cardiac amyloidosis [5]. RASI calculation is important as it has the potential to differentiate between the different subtypes of cardiac amyloidosis [6]. In addition, RASI may change with time, likely due to disease progression, underscoring the importance of repeat negative measurements when the index of suspicion remains high [7].

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