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THREE-DIMENSIONAL CARDIAC REMODELLING AFTER RESTORATION TO SINUS RHYTHM IN ATRIAL FIBRILLATION: ONE YEAR FOLLOW UP

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Multimodality Imaging

THREE-DIMENSIONAL CARDIAC REMODELLING AFTER RESTORATION TO SINUS RHYTHM IN ATRIAL FIBRILLATION: ONE YEAR FOLLOW UP

Poster Contributions

Monday, May 17, 2021, 9:45 a.m.-10:30 a.m.

Session Title: Multimodality Imaging: Echo 4

Abstract Category: 27. Multimodality Imaging: Echo

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Background: The long-term four-chamber cardiac remodelling after sinus rhythm restoration in atrial fibrillation is unknown.

Methods: We prospectively evaluated 86 consecutive patients hospitalized for atrial fibrillation. Three-dimensional indexed volumes (3D Vi) and ejection fraction of the right (RA) left atria (LA) right (RV) and left ventricle (LV) were measured using transthoracic echocardiography at admission and at 12 months follow-up. Patients were divided into two groups according to restoration of sinus rhythm (n=47) or persistence of atrial fibrillation (n=39) post cardioversion, ablation or pharmacological therapy.

Results: Compared to baseline values at one year the 3D Vi of both atria were smaller at ED and ES. in the sinus group. Interestingly, the RV was significantly smaller only in ES and unchanged in ED whereas the LV was larger in ED and unchanged in ES (Figure A). At one year the 3D ejection fraction of all cardiac chambers were improved (Figure C). In contrast, in the atrial fibrillation group at 12 months, there were no significant differences in 3D Vi of RA, LV and LA end-systolic Vi together with a significant increase of 3D RV Vi and LA end-diastolic Vi (Figure B). No significant changes in ejection fraction were noted in the RA, RV and LV but with a significant decrease LA ejection fraction (Figure D).

Conclusion: The management of atrial fibrillation should be focused on restoration of sinus rhythm to improve cardiac remodelling and both atrial and ventricular ejection fractions.

