Why do People with Lone Atrial Fibrillation Develop AV Valve Regurgitation?

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Introduction: Atrial enlargement, annular dilatation, and bilateral Atrio-Valve regurgitations (AVVR) are described among pts with lone permanent (>6months) AF, however the mechanism of AVVR in these pts has not been fully evaluated.

Aim: Investigating the mechanism of AVVR among lone permanent AF.

Material and Methods: Twenty eight pts;17 female,11 male, mean age 77 ± 6 years with lone permanent AF and preserved left ventricular ejection fraction (≥ 50%) underwent two dimentional color Doppler study. AVVR was detected in 21/28 (75%) of the pts. Mitral and tricuspid regurgitation (MR/TR) were graded as: none, mild, moderate, and severe. In order to assess the mechanism of AVVR, both left and right atrial areas (cm^2) including annular diameters (mm) were measured in apical 4 chamber view.

Results:

MR	Number of pts	LA area (cm^2)	MV annular diameter(mm)
No MR	7	21±6	32±2
Mild MR	15	21±5	33±4
Moderate MR	5	23±6	35±4
Severe MR	1	21	31
p-value		0.3	0.21

TR	Number of pts	RA area (cm^2)	TV annular diameter (mm)
No TR	7	18±3	34±2
Mild TR	16	19±5	35±4
Moderate TR	4	23±2	38±2
Severe TR	1	22	36
p-value		0.45	0.03

Although statistically not significant (p-0.4) a trend towards larger atrial areas and increased annular diameters were detected in pts with moderate AVVR compared to the pts with no AVVR.

Conclusions: These findings indicate that annular enlargement isn't the single mechanism generating AVVR among pts with permanent AF. The role of annular dysfunction in this group should be investigated.