ABSTRACTS - 28th EACTS

Aortic valve sparing include me, remodel me but spare me
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095

THE ROLE OF ANNULUS DIMENSION AND ANNULOPLASTY IN TRICUSPID AORTIC VALVE REPAIR

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Objectives: The size of aortic valve (AV) annulus and the type of annuloplasty influence the durability of bicuspid AV repair. This study sought to assess the effect of annulus size and annuloplasty in tricuspid AV repair.

Methods: From 1995 to 2013, 382 patients underwent elective tricuspid AV repair. Pre- and post-repair echocardiographic measurement of aortic annulus was available in 310 patients (study cohort). Of these, 164 had valve sparing reimplantation (VSR), 146 had subcommissural annuloplasty (SCA). Annulus was measured at latest follow-up in a subset of patients (VSR $n = 85$; SCA $n = 80$). Median follow-up was 4.7 years.

Results: The two groups differed in terms of most preoperative characteristics. Hospital mortality was 1.1%. At 10 years, overall survival (72 ± 9%) and freedom from reoperation (92 ± 4%) were similar between groups (P = ns). In the full cohort, predictors of recurrent aortic regurgitation (AR) >1+ by univariate analysis were cusp repair, SCA, severity of preoperative AR, left ventricular end diastolic diameter (LVEDD). In the SCA group, predictors were preoperative VAJ size, cusp repair, and LVEDD. In the VSR group, the only predictor was cusp thinning or decalcification. In the SCA group, rate of recurrent AR >1+ increased in patients with annular size >28 mm ($P = 0.0001$, Fig.). During follow-up, patients in the SCA group exhibited a greater increase in annular size compared to those in the VSR group ($P < 0.001$).

Conclusion: In tricuspid AV repair, large annulus predicts recurrent AR in patients having SCA because this technique is unstable over time. A more stable circumferential annuloplasty as in VSR seems recommended in patients with preoperative annular size >28 mm.