

P76. Pulmonary Artery Hypertension After Restrictive Mitral Valve Or Ring Sizes

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OBJECTIVES: Prosthesis-Patient Mismatch (PPM) has been recently proposed as a possible cause of persistence of Pulmonary Artery Hypertension (PAH) after prosthetic Mitral valve replacement or Carpentier Ring implantation.

METHODS: Out of 2607 patients, who received an isolated Mitral prosthesis or a Carpentier Ring between 1/1/1965 and 31/12 /2008, we collected 749 echocardiograms, obtained at random intervals during follow-up times in 400 patients. 250 patients, with recorded prosthetic Effective Orifice Area (EOA) and Right Ventricular Systolic Pressure (an approximation to Pulmonary Artery Pressure), underwent to correlation analysis and multivariate analysis. The average number of postoperative echoes was 1.5 (range 1-5). The effect of EOA on survival was evaluated with the Log-rank test of equality.

RESULTS: A statistical relationship between EOA and PAH ($r=0.35$, $p=0.09$) was observed for $EOA < 1.0 \text{ cm}^2/\text{m}^2$ in 70 (35%) patients (average 0.99 ± 0.14), justifying the diagnosis of PPM. Multivariate analysis showed PAH related to Mitral prosthesis regurgitation, older age, atrial fibrillation and PPM ($p=0.10$). PAH was stable over several years in patients without PPM but it showed a time related tendency to increase, which was more pronounced if PPM was severe ($EOA < 0.9$, 40 patients, average $EOA=0.76 \pm 0.09$). Survival of the cohort was unrelated to PPM and was similar in both groups.

CONCLUSIONS: Persistence or increment of PAH during follow-up time is influenced from other factors beyond PPM. Atrial fibrillation and prosthetic regurgitation are of greater operative importance. However, more data are required, due to large variability of the echocardiographic methodology and the limited power of the study.

fig.1

