11 years follow-up of Left atrioventricular valve (AVV) stenosis after complete repair of Atrioventricular septal defect (AVSD): echocardiographic predictors of outcome.

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Introduction:
Despite the excellent outcome of AVSD repair achieved in the last 50 years, the left AVV remains the “achilles” heel for surgeons. Several surgical techniques has been used, focusing in minimizing residual AVV regurgitation. However, there is a paucity of data regarding of left AVV stenosis. We sought to identify the incidence, late outcome and risk factors related with this morbidity.

Material & Methods:
221 patients underwent to all types of AVSD repair. Routine intraoperative transesophageal echocardiogram (TEE) were performed in all above 3.5 kg. Among them 18 presented residual Left AVV stenosis (mean gradient ≥ 8 mmhg) (group I). Age at the surgery (4 months to 22.5 years/median of 11 month). Group II comprised 26 patients with trivial/mild residual LAVV regurgitation. Measurements of AVV annulus, distance between the two left papillary muscle were obtained from the pre and post-operative TEE. Clinical and surgical data were obtained by chart review.

Results:
There were 6 re-operations, including 2 valve replacement and 3 deaths in the early post-op. No late post-op death. Two patients lost follow-up. Among 13 remaining, there was one late re-operation. The LAVV gradient remained stable and/or lower over the time. Mean follow-up was 6.6 years (0.8 to 10.7 y).
Preoperative total common valve annulus and LAVV annulus, measured by intraoperative TEE, were not different between groups. However, the preoperative distance between the papillary muscles were significantly smaller in Group I (p = .01).Postoperatively, LAVV annulus were reduced comparing with preoperative values, in Group I (p < .001), but not in Group II. Partial AVSD, Down’s Syndrome, Tetralogy of Fallot and Heterotaxy syndrome were not risk fact, as the surgical technique neither.

Conclusions:
Residual LAVV stenosis occurred in 8.1%. The distance between the two left papillary muscles (which support the trileaflet LAVV and also predict the mural leaflet length) was significantly smaller in those patients with residual LAVV stenosis. The LAVV annulus decreased after repair in patients who’s LAVV became stenotic. The need for further re-operation was low and overall patients remained stable from the clinical point of view.