

## MP4-7

### Long-term follow-up of congenital aortic valvular stenosis by echocardiography

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**Introduction:** In this study, we evaluated the natural history and the factors effecting the progression of aortic valvular stenosis (AVS) and aortic regurgitation (AR) in 388 patients during long term follow-up by echocardiography.

**Methods:** Very mild aortic stenosis was defined as a transvalvular Doppler gradient less than 25 mmHg, mild stenosis as 25–49 mmHg, moderate stenosis as 50–75 mmHg, and severe stenosis as more than 75 mmHg.

**Results:** The patients were followed from 1 month to 20.6 years. The degree of AVS was very mild in 138 (35.6%), mild in 133 (34.3%), moderate in 68 (17.5%) and severe in 49 (12.6%) patients, at the time of initial echocardiographic examination. Morphologic characteristic of the aortic valve was unicuspid in 4 (1%), bicuspid in 249 (64%) and tricuspid in 135 (34%) patients. Kaplan-Maier analysis demonstrated that, the patients with very mild and mild AVS are more likely to survive without AVS deterioration than the patients with moderate AVS (13.6 years, CI 12-15.1; 15.3 years, CI 14-16.7; 9.8years, CI 8.2-11.5, respectively). Of 388 patients, 148 (38.1%) had AR (50 trivial, 74 mild, 20 moderate, and 4 severe) at initial echocardiographic examination and there was no AR in 240 (61.9%) patients. No AR developed in 158 (65.8%) of these 240 patients. In 82 (34.2%) AR developed (40 (16.7%) trivial, 32 (13.3% mild, and 10 (4.2%) moderate) after a median 3.2 years, (range 1 month to 16 years) follow-up. During follow up of 148 patients who had AR at initial echocardiography, AR did not deteriorated in 102 (68.9%) patients and the degree of AR progressed in 46 (31.1%) during a median 4 years (range: 1 month to 14.2 years) follow up. The bicuspid valve morphology increased the risk of AR development/deterioration after adjustment for sex (OR 1.73, CI 1-2.7, p=0.022).

**Conclusion:** Patients with very mild stenosis may be followed with a noninvasive approach every 1 or 2 years, and an annual follow-up is suggested for patients with mild stenosis. We recommend that patients with moderate stenosis undergo noninvasive evaluation every 6 months.