Moderate mixed aortic valve disease - evaluation, treatment and prognosis of patients referred to heart valve center

P. Lupinek1, M. Kotrc1, T. Marek1, R. Kockova2, V. Pecenková1, Z. Dorazilova1, M. Blaha1, J. Benes1, A. Praveckova1, K. Kroupova1, V. Capkova1, M. Podzimkova1, J. Kettner1, J. Kautzner1

1Institute for Clinical and Experimental Medicine (IKEM), Prague, Czechia
2Na Homolce Hospital, Prague, Czechia

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Background: Indications for valve intervention in mixed aortic valve disease (MAVD) are not clearly defined. Decision is usually based on predominant lesion, extrapolated from guidelines for isolated aortic stenosis (AS) or aortic regurgitation (AR). However, data have been published suggesting that the prognosis of patients who have both moderate AS and moderate AR is not benign and may be similar to the prognosis of isolated severe AS.

Goal: To assess diagnostic process, decision making and prognosis in patients with MAVD and moderate stenosis and regurgitation examined in a tertiary referral centre.

Methods: Patients with MAVD and EF ≥ 50% examined at tertiary referral center in years 2010-2021 were retrospectively identified. MAVD was defined as moderate AS by aortic valve area > 1.0 cm² and ≤ 1.5 cm² and moderate AR by integrative assessment. Patients with more than mild to moderate disease of other valves were excluded.

Results: A total of 85 patients were eligible, mean age 66.4 ± 7.9 years, males/females 58/27, 40 (47.1%) with bicuspid or monocuspid aortic valve, 50 asymptomatic. During a mean follow-up (F-U) of 5.9 ± 3.6 years, 20 patients died and 46 underwent aortic valve replacement (AVR). At 1, 2, and 5 years of F-U, the mortality rate was 3.5%, 7.1% and 15.3% and the rate of AVR reached 23.5%, 30.6% and 43.5%, respectively. At 1, 2 and 5 years 61 (71.7%), 54 (63.5.%) and 40 (47.1%) patients were alive and free of AVR.

In 10/13 patients who died within 5 years, MAVD was classified as nonsevere. Therefore, these patients were treated conservatively and eight of them died without AVR. Except one, all had peak velocity at aortic orifice < 4 m/s. In all 6 patients who died within 2 years, MAVD was classified as nonsevere on index examination, AVR was indicated and performed only in 1 due to associated aortic aneurysm.

Conclusions: MAVD where both AS and AR are moderate is not a benign condition. Its overall severity is often underestimated, indication criteria for AVR are not clear and substantial proportion of patients die while being treated conservatively. These patients should be followed closely and lower threshold for aortic valve replacement/repair may be appropriate.