Prevalence of Valvular Heart Disease in University Hospital Centre Zagreb: A Retrospective Pilot Study

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Introduction: Valvular heart diseases (VHD) are significant contributors to morbidity and mortality worldwide. Early detection and accurate diagnosis are crucial for effective management and improved patient outcomes.[1] The aim of this study was to determine the frequency and distribution of significant (moderate or severe) VHD among patients referred to echocardiography examination at University Hospital Centre (UHC) Zagreb.

Patients and Methods: A retrospective cross-sectional pilot study was performed, analyzing all echocardiography exams performed in UHC Zagreb during one-month period (November 2024). Patient data were retrospectively analyzed to assess the prevalence and characteristics of different valve disorders.

Results: Out of 1009 echocardiography studies performed, significant (moderate or severe) VHD was noted in 158 (15.7%) patients. Among these, 92 (58%) were male. The average age of the patients was 68 years (range 20-93, median 73). Among them, 30 (18.99%) patients had aortic stenosis (AS), 23 (14.56%) aortic regurgitation (AR), 8 (5.06%) mitral stenosis (MS), 62 (39.24%) mitral regurgitation (MR), one patient (0.63%) had tricuspid stenosis (TS), 65 (41.14%) had tricuspid regurgitation (TR), and 3 patients (1.90%) had pulmonary regurgitation (PR). None of the patients were diagnosed with pulmonary stenosis. Additionally, 33 patients (20.88%) had significant multiple valve diseases (two or more involved valves with moderate or severe VHD). In **Table 1** and **Table 2**, a summary of patients with multiple VHD and their average age is presented. The most common combination was MR with TR, identified in 22 out of 33 patients (66.67%), with an average age of 69 years. No other combination was present in more

TABLE 1. Number of patients with multiple valve disease (moderate or severe) showing the most common combinations.

Values	AS	AR	MS	MR
AR	0		0	1
MS	2	1		0
MR	3	0	0	
TR	1	0	1	22
%	AS	AR	MS	MR
AR	0%		0%	3%
MS	6%	3%		0%
MR	9%	0%	0%	
TR	3%	0%	3%	67%

AR – aortic regurgitation; AS – aortic stenosis; MR – mitral regurgitation; MS – mitral stenosis; TR – tricuspid regurgitation

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TABLE 2. Average age of patients with multiple valve disease.

	AS	AR	MS	MR
AR	0		0	79
MS	72	78		0
MR	70	0	0	
TR	88	0	45	69

AR – aortic regurgitation; AS – aortic stenosis; MR – mitral regurgitation; MS – mitral stenosis; TR – tricuspid regurgitation

Values that present age of only one patient are marked in red.

than three patients. One patient had a combination of AR-MS-MR (age 66) and another patient had a combination of TR-MR-AS (age 93).

Conclusion: This retrospective analysis highlights the substantial burden of cardiac valve diseases in a tertiary care setting, with mitral and tricuspid regurgitation being the most frequently diagnosed combined VHD, suggesting advanced stage of the disease. Further large-scale studies are needed to assess disease prevalence in general population, VHD progression, treatment strategies, and long-term prognosis.

LITERATURE

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