Challenges in diagnostics of aortic regurgitation severity

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KEYWORDS: aortic regurgitation, diagnostic, severity.

CITATION: Cardiol Croat. 2023;18(9-10):252. | https://doi.org/10.15836/ccar2023.252

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Aortic regurgitation (AR) is a common valvular disease results from various etiologies, affecting the aortic valve cusps or the aortic root. The clinical presentation depends on the severity of the regurgitation and acutely of progresses. Echocardiography is the primary method to determine the etiology of AR and to define its severity. In same patients is challenging to determine AR severity, because we do not have single parameter that is sufficient. We review the current data regarding the diagnosis of AR.[1,2]

An integrative, multi-parametric approach is required. Echocardiography is key for imaging the aortic valve morphology and flow as well as aortic root and ascending aorta. Mild and moderate AR in individuals with normal left ventricular (LV) dimensions are both generally benign. Determining LV ejection fraction and dimensions is essential for patient management and optimizing timing for intervention. But disease progression occurs at a variable rate, and is often insidious. Hence, symptoms do not correlate with objective evidence of ventricular dysfunction. With severe AR, the central jet width assessed by color flow Doppler exceeds 65% of the LV outflow tract (LVOT), the regurgitant volume is ≥60 mL/beat, effective regurgitant orifice area is >0.30, pressure half time less then 200 ms, vena contracta is > 0.6 cm, and there is diastolic flow reversal in the proximal descending thoracic aorta. Anatomy of the aortic valve cusps and its suitability for valve repair should be provided by preoperative transesophageal and three-dimensional echocardiography. Cardiac magnetic resonance has the potential to add important diagnostic information.

The diagnosis and later adequate management of AR requires a comprehensive approach and routine clinical and echocardiographic follow-up. Surgical or percutaneous replacement or surgical preservation of valve is indicated when symptoms develop and in those who have LV dysfunction or LV dilation.

RECEIVED:
August 6, 2023

ACCEPTED:
August 13, 2023

LITERATURE

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