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Can we do better in assessing velocity across the aortic valve?

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Introduction: Aortic stenosis (AS) is the most common valvular heart disease. Accurate measurement of velocities when assessing the severity of AS is of immense importance for correct classification, particularly when distinguishing between severe and critical AS.[1] The aim of this abstract is to present the differences in aortic valve velocities obtained using different echocardiographic views.

Patients and Methods: Fifteen patients with severe AS who were scheduled for surgery were included in the analysis. All patients underwent transthoracic echocardiography, with flow velocities across the aortic valve acquired from the apical four-chamber (**Figure 1a)** view and a more lateral projection (**Figure 1b**). All scans were performed by one sonographer, and the analysis was conducted by two high-volume sonographers. All patients provided written informed consent for their participation.

Results: Velocities across the aortic valve measured from the apical four-chamber view were significantly lower than those from the lateral view (4.39m/s ± 0.55m/s vs 5.06m/s ± 0.70m/s, p = 0.0071). In the lateral views, a higher proportion of aortic stenosis (AS) cases were classified as critical compared with the apical four-chamber view, but this difference was not statistically significant (46% vs 13.33%, p = 0.1).

Conclusion: Obtaining maximum velocities across the aortic valve is crucial for accurate diagnosis and subsequent treatment of patients. These results indicate that, during an echocardiographic examination, it is necessary to obtain the specific view that allows the most accurate measurement and the highest velocities across the aortic valve.

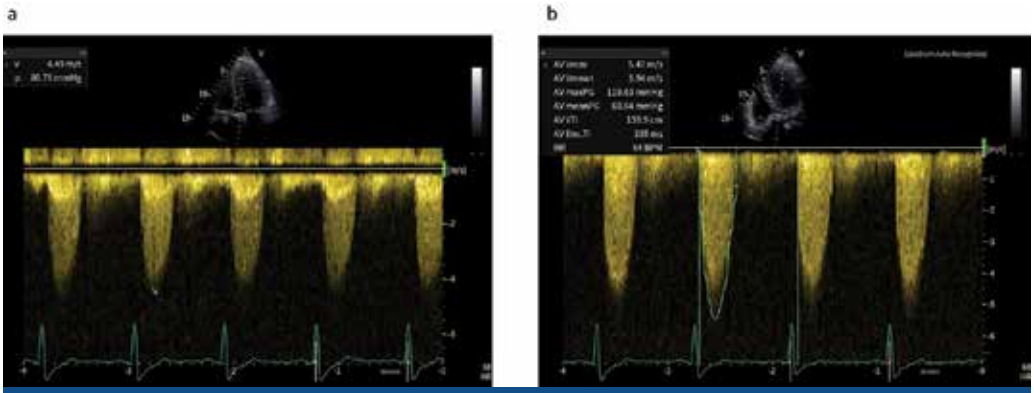


FIGURE 1. Visual presentation of velocity acquisition over the aortic valve: a) apical four chamber view; b) apical lateral projection.

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LITERATURE

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