

# Direction of aortic jet flow is important in predicting aortic dilatation in patients with bicuspid aortic valve

Cengiz Ozturk<sup>1</sup>, Ahmet Ozturk<sup>2</sup>, Sevket Balta<sup>1</sup>, Mustafa Aparci<sup>3</sup>, Sait Demirkol<sup>1</sup>, Murat Unlu<sup>1</sup>, Zekeriya Arslan<sup>4</sup>, Turgay Celik<sup>1</sup>

<sup>1</sup>Department of Cardiology, Gulhane Medical Faculty, Ankara, Turkey

<sup>2</sup>Department of Geriatric Medicine, Gulhane Medical Faculty, Ankara, Turkey

<sup>3</sup>Department of Cardiology, Gulhane Medical Faculty, Haydarpasa, Istanbul, Turkey

<sup>4</sup>Department of Cardiology, Mevki Military Hospital, Ankara, Turkey

We read the article “Bicuspid aortic valve morphology and its association with aortic diameter: an echocardiographic study” written by Miśkowiec et al. [1] with great interest. In the article they aimed to investigate the impact of bicuspid aortic valve (BAV) cusp fusion morphology on the diameters of the aorta in their study. They found that type I BAV cusp fusion morphology is more commonly associated with dilatation of the aorta at the level of the sinus of Valsalva and the ascending aorta than type II. These results are very important in researching the effects of BAV on aortic structure in patients during our daily practice. We would like to thank the authors for this detailed and useful research. However, there are some comments that need to be discussed.

First of all, the echocardiographic measurements were taken from the database and the last one was selected for the analyses. Besides the assessment techniques and aortic size thresholds, these measurements are related with the analysis of intra-observer and inter-observer differences. The measurement of distances must be very sensitive, so the measurements should be done by at least two sonographers. This comment should be noted in present study.

There are some reports about the relation between aortic dilatation and some occupations, due to the nature of some professions, especially military, security, weight lifting, athletics, heavy work, etc. The long-term Valsalva and anti-G manoeuvres may have some effect on aortic and cardiac morphology, especially in BAV patients [2–5]. It is concluded that strenuous activities in these individuals might be important for the prevention of future cases of aortic aneurysm and dissection. But what about the professions of the study population in the present study?

As the authors reported, haemodynamic theory is important and helps to explain why the aortic dilatation occurred. The increased regional wall shear stress, abnormal transval-

vular-flow patterns, and helical jet flow directed toward the aortic wall may be responsible. The left ventricular mass, end systolic and diastolic volume, interventricular septal thickness, degree of stenosis, and transvalvular pressure gradients may also effect all the measurements [6–11]. But what about blood pressure measurements of the patients? Are there any relations between these parameters and aortic dilatation or BAV morphology? It would be useful to give them in the present study.

**Conflict of interest:** none declared

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## Address for correspondence:

Cengiz Ozturk, MD, Department of Cardiology, Gulhane Medical Faculty, Ankara, Turkey, tel: +90 312 3044264, fax: +90 312 3044250, e-mail: [drcengizozturk@yahoo.com.tr](mailto:drcengizozturk@yahoo.com.tr)

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