Letter to the Editor

Reply to the letter "Not only the global longitudinal strain, but we can do more for the non-ST elevation acute coronary syndrome patients by speckle-tracking-echocardiography"☆

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We would like to thank Dr. Zhou for these comments regarding our work [1]. Indeed, speckle-tracking echocardiography (STE) enables to evaluate multiple parameters of the left ventricle (LV) systolic function, including a layer-specific analysis. The endocardium is the first layer affected by ischemia and since the subendocardial myocardial fibers are mainly oriented in a longitudinal direction, it makes sense to believe that longitudinal myocardial function might be affected primarily in this specific layer. In our study, endocardial, mid-myocardial and subepicardial longitudinal strains were evaluated but no statistical differences were found between these three parameters in terms of diagnostic performance to detect coronary artery disease (CAD) in patients with non-ST-elevation acute coronary syndrome (ACS) (AUC = 0.92, 95%CI: 0.85–0.99, AUC = 0.91, 95%CI: 0.83–0.99, AUC = 0.91, 95%CI: 0.83–0.99 respectively).

Moreover, we also think that the global area strain (GAS) derived from 3D STE has the potential for more accurate and comprehensive assessment of LV function and might be a useful tool in the setting of ischemic heart disease. In a previous work from our group [2], we investigated the diagnostic value of 3D STE in 83 intermediate cardiovascular risk patients, with normal global and regional LV systolic function in conventional echocardiography. GAS was significantly lower in CAD patients as compared to patients with no CAD ($-22,7 \pm 4,6$ vs $-26,1 \pm 5,6\%$, $p < 0,01$). 3D-STE was introduced in 2008 and several investigations have enhanced the reliability and feasibility of 3D-STE-derived data [3], however with few studies regarding CAD and ACS. Future research may emphasize the usefulness of this promising imaging technology for such patients.

Conflicts of interest

None.

References

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[2] B. Marchandot, P. Ohlmann, L. Jesel, M. Kibler, N. Messas, et al., Incremental value of resting 2D and 3D speckle-tracking echocardiography compared to exercise ECG testing to identify coronary artery disease in intermediate risk patients, Eur. Heart J. 38 (suppl_1) (1 August 2017) https://doi.org/10.1093/eurheartj/ehx493.P5234 (ehx493.P5234).

[3] Y. Seo, T. Ishizu, K. Aonuma, Current status of 3-dimensional speckle tracking echocardiography: a review from our experiences, J. Cardiovasc. Ultrasound. 22 (2) (Jun 2014) 49–57.