



Letter to the Editor

## The association of B-type natriuretic peptide with Left ventricular hypertrophy

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Dear editor,

We read with great interest the article by Ingeborg Eskerud and colleagues [1]. Authors concluded that Left ventricular hypertrophy (LVH) is an independent contributor to myocardial ischemia in patients with stable angina.

However, it has been proved that increased level of B-type natriuretic peptide (BNP) is a strong indicator of myocardial ischemia and cardiovascular risk in patients with stable coronary artery disease [2,3]. Meanwhile, BNP was also significantly associated with LVH, serving as a screening tool for LVH in the general population [4]. Therefore, it still remains to be controversial about the association between LVH and myocardial ischemia in this study since the baseline level of BNP didn't presented in the clinical characteristics. Additionally, Michel G et al. [5] classified LVH into four types according to LV geometric patterns: thick hypertrophy, dilated hypertrophy, both thick and dilated hypertrophy and indeterminate hypertrophy. It indicated that the type of both thick and dilated hypertrophy had a higher BNP levels than subjects with isolated thick hypertrophy. Thus, the precise type of LVH should also be pointed out in this study.

In conclusion, the present data demonstrating that LVH might contribute to myocardial ischemia in patients with stable angina by several mechanisms. But whether LVH is independently associated with myocardial ischemia after adjusting levels of BNP is still unknown.

### Declaration of Competing Interest

The authors declared that they have no conflicts of interest to this work. We declare that we do not have any commercial or associative interest that represents a conflict of interest in connection with the work submitted.

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### References

- [1] I. Eskerud, E. Gerds, T.H. Larsen, M.T. Lonnebakken, Left ventricular hypertrophy contributes to Myocardial Ischemia in Non-obstructive Coronary Artery Disease (the MicroCAD study), *Int. J. Cardiol.* 286 (2019) 1–6.
- [2] R. Schnabel, E. Lubos, H.J. Rupprecht, C. Espinola-Klein, C. Bickel, K.J. Lackner, et al., B-type natriuretic peptide and the risk of cardiovascular events and death in patients with stable angina: results from the AtheroGene study, *J. Am. Coll. Cardiol.* 47 (2006) 552–558.
- [3] J.P. Goetze, C. Christoffersen, M. Perko, H. Arendrup, J.F. Rehfeld, J. Kastrop, et al., Increased cardiac BNP expression associated with myocardial ischemia, *FASEB J.* 17 (2003) 1105–1107.
- [4] V. Xanthakis, M.G. Larson, K.C. Wollert, J. Aragam, S. Cheng, J. Ho, et al., Association of novel biomarkers of cardiovascular stress with left ventricular hypertrophy and dysfunction: implications for screening, *J. Am. Heart Assoc.* 2 (2013), e000399.
- [5] M.G. Khouri, R.M. Peshock, C.R. Ayers, J.A. de Lemos, M.H. Drazner, A 4-tiered classification of left ventricular hypertrophy based on left ventricular geometry: the Dallas heart study, *Circulation Cardiovascular imaging* 3 (2010) 164–171.

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