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Letter to the editor

Soluble regulators of Interleukin-1 signaling: Novel biomarkers for early acute myocardial infarction diagnosis and to predict ischemia/reperfusion injury?

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Dear Editor:

Recently, two different groups proved that baseline levels of soluble regulators of Interleukin (IL)-1 signaling predicted outcomes of coronary artery disease (CAD). Schofer N and colleagues' study demonstrated that circulating IL-1 receptor antagonist (IL1-Ra) is an independent predictor for adverse outcome in patients with documented CAD [1]. Orrem HL and colleagues' study demonstrated that levels of soluble IL-1 receptors 2 (sIL-1R2) are independently associated with parameters of LV adverse remodeling in STEMI patients [2]. Both IL-1Ra and sIL-1R2 are factors which can attenuate IL-1 signaling and their levels could be indirect indicators for severity of inflammation [3]. These two studies validated that soluble regulators of IL-1 signaling could be novel biomarkers to predict LV remodeling and prognosis in CAD.

Both studies showed increased IL-1Ra, sIL-1R1 and sIL-1R2 levels before revascularization [1,2]. However, their levels upon admission were unclear. Upregulation of IL-1Ra occurred much earlier in AMI patients than standard markers and could increase early diagnostic power for AMI [4]. Therefore, it is worthy to test whether these different soluble markers, in addition to IL-1Ra, could help with the diagnosis of patients presented with chest pain in emergency department and contribute to distinguishing unstable angina and AMI. Besides, ischemia/reperfusion injury is still unsolved problems for AMI treatment. Orrem's results showed altered IL-1Ra and sIL-1R1 levels before and after revascularization [2], though it's unclear whether they reached statistical significance. It also deserves to evaluate whether the relative change of these soluble markers before and after revascularization could predict early reperfusion injury.

Conflict of interest

None.

References

[1] N. Schofer, S. Ludwig, N. Rubsamen, R. Schnabel, K.J. Lackner, H.J. Ruprecht, et al., Prognostic impact of Interleukin-1 receptor antagonist in patients with documented coronary artery disease, Int. J. Cardiol. 257 (2018) 24–29.
[2] H.L. Orrem, C. Shetelig, T. Ueland, S. Limalanathan, P.H. Nilsson, T. Husebye, et al., Soluble IL-1 receptor 2 is associated with left ventricular remodelling in patients with ST-elevation myocardial infarction, Int. J. Cardiol. 268 (2018) 187–192.
[3] C. Garlanda, C.A. Dinarello, A. Mantovani, The interleukin-1 family: back to the future, Immunity 39 (2013) 1003–1018.
[4] G. Patti, A. D'Ambrosio, S. Mega, G. Giorgi, E.M. Zardi, D.M. Zardi, et al., Early interleukin-1 receptor antagonist elevation in patients with acute myocardial infarction, J. Am. Coll. Cardiol. 43 (2004) 35–38.

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