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Relationship between neutrophil–lymphocyte ratio and in-hospital mortality

Reply

This reply refers to D.-Z. Li, J. Yu, R.-S. Du, R. Zeng, Z. Zeng (2015) Thrombo-inflammatory status and prognosis of acute type A aortic dissection. Herz, doi:10.1007/s00059-015-4356-6

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Reply

First of all, we would like to thank Li et al. for their comments. Acute type A aortic dissection is a life-threatening cardiovascular emergency with a high morbidity and mortality rate. The predictors of mortality in acute aortic dissection are not fully elucidated. The International Registry of Acute Aortic Dissection have developed several risk models including preoperative and intraoperative variables [1], but in recent studies several biochemical markers of thrombosis and inflammation have been evaluated as predictors of adverse events in acute aortic dissection.

Neutrophil–lymphocyte ratio (NLR) reflects the balance of the neutrophilia of inflammation and the relative lymphopenia of cortisol-induced stress response. Recently, NLR has been proposed as a prognostic marker predicting worse clinical outcomes in cardiovascular diseases including acute heart failure, stable coronary artery disease, and acute myocardial infarction. This simple and readily available ratio was also used to predict

the mortality of coronary artery bypass grafting and elective major vascular surgery [2, 3].

In our study enrolling relatively small number of patients, we have concluded that NLR could be used to predict in-hospital mortality in patients with acute type A aortic dissection. The lack of Kaplan–Meier curve and multivariate regression analysis may be sustained as a major limitation of the study, as stated by Li et al. However, in a recent and large-scaled study Lafçi et al. [4] have reached similar results with our study. Since both local and systemic inflammation play a crucial role in initiation and progression of medial degeneration in patients with aortic dissection, the relationship between NLR and in-hospital mortality in acute aortic dissection is not peculiar.

We have read with great interest the work by Li et al [5] regarding the simplified thrombo-inflammatory prognostic score as a predictor of in-hospital complications and long-term outcomes in patients with acute type A aortic dissection. Since aortic dissection is a thrombo-inflammatory status in which platelets and leukocytes interact, combination of novel mediators of both inflammation and thrombosis into a novel scoring system may be reasonable.

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Compliance with ethical guidelines

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