



Letter to the Editor

Role of ischemic conditioning and direct stenting on myocardial protection^{☆,☆☆}



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We appreciate the interest in our article [1]. The authors raised the issue that ischemic conditioning (IC) may have also affected our study results of reduced myocardial injury and improved clinical outcome in patients with acute ST-segment elevation myocardial infarction (STEMI) undergoing direct stenting (DS) and recommend to include the IC intervention in our Cox regression analyses for identification of independent predictors of improved prognosis.

The authors have conducted a meta-analysis to evaluate potential factors affecting ischemic postconditioning (IPoC) and found that cardioprotection was more effective in younger, male patients, or

when DS techniques were used [2]. This meta-analysis is an important addition to the available data, which may emphasize the additive cardioprotective role of both IPoC and DS in patients with STEMI.

In our analysis comparing DS to conventional stenting, the usage of remote IC and/or IPoC was balanced between the 2 stenting-technique groups (32% vs 24% and 38% vs 39%, $p =$ non-significant, respectively). Moreover, we tested the effect of IC as a predictor of 6-month mortality in Cox regression analysis. In the univariate analysis, IC was not a significant predictor of mortality (hazard ratio 0.98, 95% confidence interval 0.64–1.50, $p = 0.939$) and after adding IC to the multivariate analysis model DS remained unchanged as an independent predictor of cardiovascular events after 6 months [1]. However, we agree that future studies should observe if the combination of DS plus ischemic per- or postconditioning results in improved myocardial protection.

References

- [1] M. Saad, T. Stiermaier, G. Fuernau, et al., Impact of direct stenting on myocardial injury assessed by cardiac magnetic resonance imaging and prognosis in ST-elevation myocardial infarction, *Int. J. Cardiol.* 283 (2018) 88–92.
- [2] C. Zhou, Y. Yao, Z. Zheng, et al., Stenting technique, gender, and age are associated with cardioprotection by ischaemic postconditioning in primary coronary intervention: a systematic review of 10 randomized trials, *Eur. Heart J.* 33 (2012) 3070–3077.

[☆] All authors take responsibility for all aspects of the reliability and freedom from bias of the data presented and their discussed interpretation.

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