

## Letters

### TO THE EDITOR

## Underutilization of Fibrinolysis Despite Timely Arrival in STEMI



### A Missed Opportunity!

We were interested in the paper by Qamar et al<sup>1</sup> and appreciated their contribution of new observational data to the field. However, there are several points of concern that need to be addressed.

First, despite 64% and 78% of ST-segment elevation myocardial infarction (STEMI) patients arriving within 1 and 3 hours of symptom onset respectively, only 15% received timely fibrinolysis. This is concerning, as fibrinolysis within the first 2 hours can be as effective as primary percutaneous coronary intervention (PCI).<sup>2</sup> In India, where only 5% to 10% of STEMI patients receive primary PCI, health care systems must prioritize fibrinolysis as a crucial reperfusion option.

Second, although previous studies have indicated that routine delayed PCI does not confer any benefits in STEMI,<sup>3</sup> and guidelines have guidelines have given it a Class III recommendation, PCI was performed in 56% of patients 72 hours after STEMI. In this background, it is further surprising that absence of PCI post-STEMI was found as a major predictor of adverse outcomes. These observations need explanation.

Third, the authors did not provide an analysis of the outcome differences between the 32% of patients who underwent PCI within 24 hours and the 56% who underwent PCI after 72 hours. This information is important for understanding the impact of delayed PCI on outcomes in STEMI.

Fourth, the inclusion of patients up to 21 days after STEMI raises the possibility of less severe cases that survived by natural selection being included in the study, and thus the in-hospital mortality rate of 6% may be an underestimate.

Last, the study does not provide details of loss of follow-up at 1 year and the baseline differences between the followed-up patients and the patients lost to follow-up. Hence, the reported 1-year mortality rate of 11% may not be accurate.

\*Justin Paul Gnanaraj, MBBS, MD, DM  
Winfred G. Justin Paul, MBBS  
Anne Princy Steaphen, MBBS, MD, DM  
Iliyas Mohammed, MBBS, MD, DM  
Hariharan Chellapandy, MBBS, MD

\*Madras Medical College  
Park Town  
Chennai, Tamil Nadu 600003, India  
E-mail: [drjpheart@gmail.com](mailto:drjpheart@gmail.com)

<https://doi.org/10.1016/j.jacasi.2023.04.010>

© 2023 The Authors. Published by Elsevier on behalf of the American College of Cardiology Foundation. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

The authors have reported that they have no relationships relevant to the contents of this paper to disclose.

The authors attest they are in compliance with human studies committees and animal welfare regulations of the authors' institutions and Food and Drug Administration guidelines, including patient consent where appropriate. For more information, visit the [Author Center](#).

### REFERENCES

1. Qamar A, Bhatia K, Arora S, et al. Clinical profiles, outcomes, and sex differences of patients with STEMI: findings from the NORIN-STEMI Registry. *JACC: Asia*. 2023;3:431-442.
2. Gabriel SP, Bonnefoy E, Chabaud S, et al. Impact of time to treatment on mortality after prehospital fibrinolysis or primary angioplasty. *Circulation*. 2003;108(23):2851-2856.
3. Hochman JS, Lamas GA, Buller CE, et al. Coronary intervention for persistent occlusion after myocardial infarction. *N Engl J Med*. 2006;355(23):2395-2407.