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Mostly Early Invasive Management May Improve Outcomes in Patients with Myocardial Infarction and Cardiogenic Shock

To the Editor:

Dr Bangalore et al[1] reported improved in-hospital mortality when invasive management (coronary angiography, percutaneous coronary intervention, or coronary artery bypass graft) was performed in patients hospitalized for cardiogenic shock due to myocardial infarction. All subgroups benefited from this invasive strategy. However, as acknowledged, propensity analysis did not account for unmeasured confounders, for example, do not reanimate orders, pulmonary hypertension, and acute renal failure.[2] The last situation may be dramatic and prevent injection of iodine products.

Furthermore, most patients may have died before being stabilized enough to undergo invasive investigations.[3] Although percutaneous coronary intervention is feasible and may be lifesaving under assistance such as extracorporeal membrane oxygenation, some physicians may deny aggressive management or dangerous transportation for patients with such dismal prognosis. Thus, drawing Kaplan-Meier curves would be of interest to address this issue, with focus on the very first hours.

In this regard, it is noticeable that patients underwent invasive management in the late stage of their disease; 17% and 44% of patients underwent percutaneous coronary intervention and coronary artery bypass grafting, respectively, after 24 hours.[1] Patients with invasive management before or after 24 hours had a similar improved outcome compared with patients with conservative management. This may be interpreted as selection bias, because patients who survived initial cardiogenic shock may have been treated by revascularization, as acknowledged. In the Should We Emergently Revascularize Occluded Coronaries for Cardiogenic Shock trial, revascularization could be performed after 48 hours in the initial medical stabilization group with worse prognosis. Early revascularization was associated with improved outcome compared with late (>18 hours) or no revascularization in the Should We Emergently Revascularize Occluded Coronaries for Cardiogenic Shock registry.[3] The exact time window for revascularization is not precisely known. Basically, early invasive management should be proposed to patients with myocardial infarction and cardiogenic shock.

Finally, the method of revascularization in patients with cardiogenic shock is not well known because they were excluded from most of the trials. The choice between multivessel percutaneous coronary intervention and coronary artery bypass grafting in such patients with myocardial infarction and cardiogenic shock is still a matter of debate and should be made by the heart team on an individual basis, with particular interest on the time window and immediate (and late) prognosis improvement.[4] Percutaneous coronary intervention can be performed promptly at the time of first coronary angiography. It is the most common way of revascularization. Only 4% of patients with myocardial infarction and cardiogenic shock underwent urgent coronary artery bypass grafting in Germany, much less than the 22% reported by Bangalore et al.[1]

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