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Letter to the Editor

Revascularization strategy in patients with acute ST-elevation myocardial infarction amid COVID-19 pandemic



We read with great interest the consensus on the management of acute coronary syndrome in patients with suspected or confirmed coronavirus disease 2019 (COVID-19) by the Taiwan Society of Cardiology.¹ Such consensus is important to guide local cardiologists who may encounter COVID-19 patients in their daily practice and also to serve as a reference for countries that are yet to issue their local recommendations on the management of acute coronary syndrome amid COVID-19 pandemic.

However, we are deeply concerned about the recommended revascularization strategy for patients with ST-elevation myocardial infarction (STEMI) in the consensus guideline where fibrinolytic therapy is considered before primary percutaneous coronary intervention (PCI) as depicted in the proposed algorithm. It has been well-recognized before COVID-19 pandemic that primary PCI is preferred to fibrinolytic therapy when it can be performed in a timely manner since primary PCI with stenting has been found to reduce the risk of recurrent myocardial infarction.

It should also be recognized that many patients have a persistent reduction in blood flow in the infarct-related artery after fibrinolysis and thus are at persistent risk for reinfarction since the clinical benefits of fibrinolytic therapy are observed only with the restoration of normal flow. Normalization (TIMI grade 3 flow) of blood flow is observed in only 50–60% of infarct-related arteries with fibrinolytic therapy.² The majority of STEMI patients receiving fibrinolytic therapy would require subsequent PCI at some point during hospitalization as part of a pharmacoinvasive or rescue strategy for failed fibrinolysis or threatened reocclusion and thus fibrinolytic therapy may not reduce resource utilization amid COVID-19 pandemic.

In addition, patients receiving fibrinolytic therapy will require monitoring in an intensive care unit (or coronary

care unit), thereby utilizing valuable resources that may be in scarcity amid COVID-19 pandemic. Furthermore, there are some patients who may be susceptible to the bleeding risk from fibrinolysis, further prolonging the length of stay, which may not be desirable amid COVID-19 pandemic since it may lead to the already strict infection control measures become even more complicated.

Though fibrinolytic therapy is suggested as the first-line therapy in several publications as pointed out by the authors, it should be noted that two of the largest professional cardiology organizations, namely European Society of Cardiology³ and American Heart Association⁴ continue to recommend primary PCI as the reperfusion therapy of choice even though the COVID-19 crisis is worse in Europe and the United States compared to Taiwan. The approach to revascularization strategy in STEMI patients should be done cognizant of the evidence-based cardiac care even amid COVID-19 pandemic.

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Declaration of Competing Interest

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