Primary Percutaneous Coronary Intervention or Fibrinolytic Therapy in COVID 19 Patients Presenting With ST-Segment Elevation Myocardial Infarction

The timely diagnosis and management of patients with suspected ST-segment myocardial infarction (STEMI) or acute coronary syndrome (ACS) in the COVID-19 era is an area of wide concern given variable presentation as well-associated risks of infection to healthcare teams. The recent manuscript by Hamadeh et al,[1] published in the journal adds to our existing knowledge by reporting the largest, multicenter case series on the clinical presentation, management, and outcomes of patients with symptomatic COVID-19 infection and STEMI.[1] There are several key findings in this study and we commend the authors on their investigation. However, certain aspects of the study merit attention before definite conclusions can be drawn, especially regarding the high incidence of stent thrombosis in this cohort and advocating broader use of fibrinolytic therapy in healthcare systems where access to primary percutaneous coronary intervention (PCI) is more prevalent.

First and foremost, this is a retrospective case study where many known and unknown factors confound the relation being examined. The finding of strikingly high rates of stent thrombosis needs to be interpreted with caution as patients in the PCI cohort were sicker and more likely to present with shock, develop acute respiratory distress syndrome and need mechanical ventilation. Given the smaller sample size of the study, especially the primary PCI cohort, any potential beneficial or harmful effect of a therapy may be amplified. Although the overall proportion of patients with stent thrombosis (21%) in the cohort is concerning, the absolute number (n = 4) is still relatively low. The authors did use the fourth universal definition of myocardial infarction for stent thrombosis, but it will be interesting to know more about angiographic factors in these patients. In our anecdotal practice in a high-volume public healthcare system in the United States, we have managed COVID-19 STEMI patients with primary PCI and used prolonged infusions of cangrelor or GP IIb/IIIa inhibitors after successful reperfusion given the heavy thrombus burden with good outcomes.

Second, outcomes in the fibrinolytic group of unsuccessful reperfusion (n = 9/59; 15%) and high incidence of hemorrhagic stroke (n = 5/59, 9%) question both efficacy and safety of fibrinolytic therapy in this cohort. This is also of considerable importance as 2 contemporary case series have suggested that between 30% and 39% of patients who undergo urgent coronary angiography for suspected STEMI in setting of COVID-19 do not have angiographic diagnosis to suggest coronary obstruction,[2,3] which make advocating fibrinolytic therapy for COVID-19 patients who present with suspected STEMI, unnecessary and potentially dangerous.

We propose that whenever possible, COVID-19 patients with findings suggestive of STEMI should be transferred to a PCI-capable facility. The recent statement published by the American College of Cardiology (ACC), Society for Cardiovascular Angiography and Interventions (SCAI) and American College of Emergency Physicians (ACEP) recommends primary PCI as the standard of care for COVID-19 patients who present with STEMI.[4]

It is becoming increasingly apparent that ACS in COVID-19 infected patients is not the same disease process compared with ACS without COVID-19 infection. The dichotomy of both increased mimickers of STEMI as well as a signal of higher thrombus burden in patients with angiographic STEMI adds to the already complex management of COVID-19 patients.[2,3,5]

Disclosures

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Association of Body Mass Index With Outcomes in Patients Undergoing Transcatheter Mitral Valve Repair

Obesity is a major independent risk factor for premature death due to cardiovascular diseases. Several studies have reported a better prognosis for obese patients who underwent transcatheter aortic valve replacement, coronary artery bypass grafting, hypertension, and heart failure compared with their leaner counterparts.[1,2] This counterintuitive phenomenon has been described as an "obesity

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