Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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Letters to the Editor

□ THE CHALLENGE OF MANAGING STEMI IN THE COVID-19 EPIDEMIC

□ To the Editor:

The conclusion that the coronavirus disease 2019 (COVID-19) pandemic has not affected patients requiring reperfusion therapy for ST elevation myocardial infarction (STEMI) seems somewhat counterintuitive, given the fact that COVID-19 has been cited as being a contributory factor to an increase in procoagulant activity and destabilization of vascular plaques, thereby increasing the risk of STEMI (1,2). This increased risk may be accompanied by pain-free clinical presentations of STEMI in which the symptoms of COVID-19 infection dominate the clinical presentation to the exclusion of a suspicion for acute myocardial infarction (3,4). The procoagulant state also favors an increased incidence of pulmonary thromboembolism (PTE), including STEMI mimics such as PTE characterized by ST segment elevation, and the coexistence of PTE and coronary artery thrombosis (5,6). Other STEMI mimics that are likely to be more prevalent during this pandemic include Takotsubo cardiomyopathy and COVID-19 myocarditis (7–9). The requirement to allocate catheter laboratory time and resources to the invasive evaluation of STEMI mimics is likely to compete with the need to optimize door-to-balloon time for patients with thrombotic coronary artery occlusion, the latter being the very patients who require reperfusion therapy for STEMI. Treatment delay is compounded by screening procedures for COVID-19 before intervention, and delay in intervention while donning personal protective equipment (10). Above all, even if all things remain equal, clinicians have to wrestle with the challenge of reconfiguring catheter laboratory facilities in such a way as to mitigate the risk of nosocomial transmission of the virus, and also to make personal protective equipment more user-friendly for interventionists manipulating the percutaneous coronary intervention catheters and balloons (11). These challenges have given rise to a school of thought that proposes a return to thrombolytic therapy as the modality of choice for management of STEMI during this pandemic (11,12). For that strategy to be ethically defensive, the algorithm for management of STEMI would have to recognize the entity of aortic dissection with STEMI-like clinical presentation as an important differential diagnosis for acute myocardial infarction (13). Absence of that recognition entails potentially fatal iatrogenic risk for patients (14). To mitigate that risk, the algorithm for prospective candidates for thrombolytic should include routine evaluation for interarm blood pressure difference, murmur of aortic regurgitation, mediastinal widening, and point-of-care echocardiography for stigmata of aortic dissection; all of which would make substantial inroads into improving "door-to-needle time." For all of these reasons it would be difficult to accept that, for STEMI patients, nothing has changed substantially except the probability that COVID-19 has only dissuaded "noncritical" patients from coming to the hospital.

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