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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Complex Clinical Cases

ACUTE MANAGEMENT OF MYOCARDITIS DUE TO MULTI-SYSTEM INFLAMMATORY SYNDROME ASSOCIATED WITH SARS-COV-2 INFECTION

Poster Contributions
For exact presentation time, refer to the online ACC.22 Program Planner at https://www.abstractsonline.com/pp8/#!/10461

Session Title: Complex Clinical Cases: FIT Flatboard Poster Selections -- Covid
Abstract Category: FIT: Coronavirus Disease (COVID-19)

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Background: Multi-system inflammatory syndrome in children (MIS-C) associated with severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) infection, analogous to Kawasaki Disease (KD), can have significant cardiac involvement. A similar syndrome has also been described in adults (MIS-A), with reports of patients progressing to severe cardiac dysfunction.

Case: A 27-year-old African American male with morbid obesity presented with acute myocarditis complicated by cardiogenic shock. The patient had negative nasopharyngeal PCR testing for SARS-CoV-2, but positive SARS-CoV-2 IgG antibodies, and elevated inflammatory markers. He rapidly developed a hemodynamic compromise with progressive biventricular dysfunction and evidence of end-organ hypoperfusion, requiring mechanical ventilation and femoral veno-arterial extracorporeal membrane oxygenation support (ECMO). Subsequent echocardiogram showed progression to near cardiac standstill requiring placement of axillary Impella 5.5 for left ventricular unloading. A simultaneous endomyocardial biopsy was suggestive of acute myocarditis with predominant neutrophilic infiltration and significant myocardial necrosis. This presentation was consistent with MIS-A. The patient received empiric treatment with high dose corticosteroids as well as intravenous immunoglobulin therapy for four days, resulting in rapid improvement in cardiac function, and removal of all mechanical circulatory support (MCS) after six days.

Decision-making: After a rapid progression of hemodynamic compromise, the multidisciplinary CCU team decided to quickly escalate mechanical support to prevent further end-organ damage, start empiric therapy for MIS-A, and obtain a tissue confirmation of the presumed diagnosis.

Conclusion: There is a range of clinical severity of myocardial involvement, and the need for escalation to MCS must be considered early in the clinical course of MIS-A.