THE ROLE OF TARGETED TEMPERATURE MANAGEMENT POST-BRADYCARDIC ARREST IN THE COVID19 POSITIVE PATIENT

Meet Shah, Afif Hossain, Jorge Naranjo, Jae Wook Shin, Julius M. Gardin

Rutgers New Jersey Medical School, Newark, NJ

Background: Targeted temperature management (TTM) has long been a mainstay of treatment for post-cardiac arrest (PCA) patients with return of spontaneous circulation (ROSC). This includes both in-hospital cardiac arrest (IHCA) and-out-of-hospital cardiac arrest with an initial shockable, as well as non-shockable rhythm. However, the recent TTM2 trial has cast doubt on the efficacy of TTM. The role of TTM in COVID19 PCA patients has yet to be studied.

Case: A 49-year-old woman with history of heart failure with reduced ejection fraction (HFrEF) and chronic kidney disease presented for shortness of breath and was admitted for presumed HFrEF exacerbation. On day four, she became bradycardic and hypoxemic. Rapid response was called and patient went into cardiac arrest with ROSC but without purposeful movement. Therefore, TTM was initiated. Ultimately, the patient was found to be COVID19 positive. During her hospital course, she developed acute renal failure, Klebsiella bacteremia, fungemia, right frontal ischemic stroke, and acute hypoxemic respiratory failure in the setting of COVID19 infection.

Decision-making: While in the cardiac intensive care unit, the patient was started on broad spectrum anti-microbials, dexamethasone, aspirin, atorvastatin, vasopressor support, and hemodialysis. Given her critical condition with IHCA, followed by immediate resuscitation, TTM was pursued with improvement in condition. She required tracheostomy and percutaneous endoscopic gastrotomy tube placement given her prolonged hospital course. Following therapeutic cooling, she was able to follow commands, move her extremities and communicate by mouthing words, nearing her baseline status.

Conclusion: There are limited data regarding TTM in COVID19 positive patients. Its role in COVID19-related cardiomyopathy, inflammation, and hypercoagulability requires further elucidation. Our case demonstrates the benefits of immediate therapeutic cooling in a critically ill COVID19 positive patient with multiorgan failure. In fact, our patient had no signs of coagulopathy or arrhythmia during cooling. In the PCA COVID19 positive patient, TTM can be a viable therapeutic option.