

ABSTRACT

The objective of the study was to describe the use of methylene blue (MB) in a burned patient with acute septic cardiomyopathy. This case summary is about a 60-year-old Caucasian male who was admitted to the Burn Intensive Care Unit with 45% TBSA burns after a house explosion. During the course of his care, he experienced hypotension that was refractory to fluid therapy and vasoactive medications. Echocardiography and right heart catheterization showed new acute systolic dysfunction with concurrent elevated systemic vascular resistance (SVR). High-dose inotropic agents did not improve cardiac function, and septic shock yielded him a poor candidate for mechanical intra-aortic balloon pump support. MB was administered to sensitize the myocardium to catecholamines and improve contractility with the goal of weaning the other vasoactive medications and diuresing for afterload reduction when hemodynamic stability was achieved. MB has been described in critical care medicine predominately for vasoplegia after cardiopulmonary bypass and vasodilatory septic shock. Our patient had acute septic cardiomyopathy that was refractory to standard pharmacologic approaches to inotropy with concurrent elevated SVR. Hypothesizing the differential temporal effect of inducible nitric oxide synthase on the vasculature and myocardium, we administered MB to improve contractility and support the impending vasodilatory effects of distributive shock. Although MB is not a new drug, the application for septic cardiomyopathy with a supranormal SVR is a unique application. Because of the risk profile associated with MB, we recommend drug monitoring utilizing serial echocardiography and/or right heart catheterization.