

Commentary

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## Commentary: The importance of operative timing in the era of coronavirus disease 2019 (COVID-19)

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### Central Message

Providers must carefully consider testing and the true urgency of operative interventions in congenital heart disease patients with recent SARS-CoV-2 exposure, symptoms, or lack thereof.

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The current worldwide coronavirus disease 2019 (COVID-19) pandemic has required all health care practitioners to consider the care of their patients in an entirely new light. This is especially paramount when determining the timing for any medical procedure, as providers must now, more than ever, appreciate the importance of critically evaluating what procedures are truly urgent and cannot be deferred to an elective basis. Despite the initial focus of the COVID-19 pandemic being directed toward adult patients, pediatric patients have also experienced a significant burden of this novel disease,<sup>1,2</sup> and patients with congenital heart disease are certainly not exempt.<sup>3</sup>

In the current edition of the *Journal*, Bezerra and colleagues<sup>4</sup> present an early report of a case of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection complicating the postoperative care and recovery of a young pediatric patient following staged surgical palliation of single-ventricle congenital heart disease. We read this article with great interest both for its novelty and the timely lessons that can be learned from this patient's management. The authors' patient underwent an elective total cavopulmonary connection (TCPC) operation with DeVega tricuspid valve repair in March 2020 for continued management of hypoplastic left heart syndrome. Surgery was completed with intermittent atrioventricular dissociation, but in the following days, the patient developed cough, desaturation, abdominal pain, progressive pulmonary consolidations, and respiratory distress necessitating an escalation in supplemental oxygen therapy. SARS-CoV-2 infection was ultimately confirmed on polymerase chain reaction nasal swab testing on postoperative day 13. With supportive care, the patient slowly recovered and did not require invasive positive-pressure ventilation. In retrospect, the patient was exposed to both of his parents, who experienced "flu-like" symptoms 6 days before this TCPC operation.

Although certainly in need of completion TCPC, the timing of this operation certainly was elective in the present patient's case. Even in the absence of any symptoms, the significance of the potential damage of

active SARS-CoV-2 infection and the cytokine interaction that it may produce cannot be underestimated,<sup>5</sup> especially in patients undergoing surgery.<sup>6</sup> With the emergence of SARS-CoV-2 infection causing significant morbidity from pediatric multisystem inflammatory syndrome,<sup>7</sup> including profound impacts on the heart, lungs, and other end organs in some patients,<sup>8</sup> the danger of any underestimation of even an apparent asymptomatic SARS-CoV-2 infection, especially in a patient with congenital heart disease, could be very detrimental.

Although we acknowledge that the availability of testing and its implementation are not uniform around the world, we advocate that, until COVID-19 in children with congenital heart disease is better understood, preoperative testing for SARS-CoV-2 infection in all patients for congenital heart disease for time-sensitive cardiac interventions or surgeries should be mandatory. Elective cardiac procedures can be postponed to a later time.

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