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ECMO Experience in Post-cardiotomy Cardiogenic Shock. Case Presentation

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Abstract

Post-cardiotomy cardiogenic shock (PCCS) presents a paramount challenge, with severe and potentially fatal implications, significantly impacting myocardial contractility and peripheral tissue perfusion due to reduced cardiac output. The following report chronicles a clinical case of a patient diagnosed with rheumatic valvulopathy, severe mitral and tricuspid regurgitation, concomitant pump dysfunction of the heart, severe pulmonary hypertension, heart failure, persistent atrial fibrillation, and congestive hepatopathy, among other comorbidities. The case emphasizes the importance of timely diagnosis, intervention, and continued management in patients with complex cardiovascular pathology. The perioperative decision for ECMO support in PCCS remains complex, relying on scientific data as well as individual considerations. ECMO is associated with high mortality and morbidity, reflecting the severity of the underlying disease, and the imperfections of the method, which can lead to hemorrhagic complications, ischemic or thromboembolic events, and multi-organ failure. The purpose of implementing post-cardiotomy ECMO (ECMO-PC) is to maintain systemic oxygen delivery (DO_2) three times higher than oxygen consumption (VO_2) ($DO_2:VO_2$ ratio >3), with the norm being 5, and shock state assessment at 2. Managing a patient on post-cardiotomy ECMO (ECMO-PC) support necessitates heightened attention to the hemostatic system, as both bleeding and thrombosis remain common complications during ECMO.



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