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Commentary: Vasoplegia after aortic surgery: Looking for options

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Vasoplegic shock after cardiac surgery can be a challenging clinical problem to manage and can affect every aspect of cardiac surgery, including coronary and valve surgery, aortic surgery, ventricular assist devices, and heart transplantation.^{1,2} While vasoplegia in cardiac surgery is typically directly related to the use of cardiopulmonary bypass, this has been seen in off-pump surgery as well. For this reason, it is our practice to routinely pause the use of angiotensin-converting enzyme inhibitors and angiotensin receptor blockers 5 days before cardiac surgery when it is safe to do so.

The initial management for vasoplegic shock includes ruling out any other causes of refractory hypotension, including sepsis, bleeding, metabolic and/or electrolyte derangements, hypoxia, or cardiac failure. In thoracic aortic surgery, as in this case, the consequences of hypotension can be especially detrimental and permanent if they result in spinal cord ischemia.³ After a diagnosis of vasoplegia is made, the toolbox with which to address the high-output, low vascular resistance cardiovascular collapse must be evaluated and vasopressors and intravenous volume expansion become the first line in the tools of the trade. The algorithm presented by the authors in this case report summarizes the stepwise progression of vasopressor use. Over the years, several new tools have been added to the toolbox with which to address the difficult problem of vasoplegia. Several pharmacologic agents that have been demonstrated as being effective in vasoplegia include terlipressin, methylene blue, hydroxocobalamin, angiotensin II (Giapreza),

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CENTRAL MESSAGE

Angiotensin II can be successfully used as part of multimodality therapy for the treatment of vasoplegia in patients who undergo partial cardiopulmonary bypass.

vitamin C, flurbiprofen (Ropion), and hydrocortisone.⁴ As is evident by the plethora of options, no one option has proven to be the obvious superior agent. Within the circumstances of vasoplegia, by definition, the patients are rather unstable and we as clinicians try to use the “kitchen-sink” approach in this scenario to help alter the patient’s clinical course. In this issue of the *Journal*, Chatterjee and colleagues⁵ report their experience in a patient undergoing thoracoabdominal aortic aneurysm repair and their successful use of angiotensin II in this setting. The authors have one of the largest experiences with open thoracoabdominal aneurysm repair, and their efforts to optimize perioperative management in this critically ill cohort are to be commended.

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