Correspondence

Letter by Reddy and Leesar Regarding Article “Assisted Beating of the Ischemic Heart: How to Manage the Pulseless ST-Segment–Elevation Myocardial Infarction Patient”

To the Editor:

We read with great interest the comprehensive article on the management of the pulseless ST-segment–elevation myocardial infarction patient by Lotz et al.¹ The authors correctly note that emergency insertion of existing left ventricular (LV) decompression devices into a coding patient supported by venoartrial extracorporeal membrane oxygenation is unlikely to be successful. Existing percutaneous decompression methods such as atrial transeptal cannulation or microaxial pump placement cannot be performed outside the catheterization laboratory and carry an extremely high risk of complications such as vascular injury, cardiac perforation, and pericardial tamponade when performed emergently. This is especially true for a coding patient who is undergoing chest compressions.

Animal models and human studies of intra-aortic balloon counterpulsation (IABP) during extracorporeal membrane oxygenation have shown beneficial hemodynamic effects during chronic concurrent use.²,³ However, the use of IABP for acute LV decompression has not previously been studied. We examined the acute additive effect of IABP while treating a patient on extracorporeal membrane oxygenation who developed LV overdistention and diffuse ST-segment–elevation myocardial injury. Ten minutes after insertion of the IABP, the aortic pressure waveform showed marked improvement in pulsatility, echocardiography showed excellent aortic valve opening, and the LV end-diastolic pressure had decreased from 44 to 28 mm Hg, confirming rapid and effective acute LV decompression.

Given that the IABP can be rapidly inserted at the bedside even in coding patients and has a lower risk of complications than existing methods of LV decompression during extracorporeal membrane oxygenation, we recommend its use in cases such as that described by Lotz et al in their article.

Disclosures

None.

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References


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