Structured Cardiogenic Shock Program Improves Outcomes in Patients Supported by VA ECMO: A Single-Center Experience

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Background

Mortality in cardiogenic shock increases with higher Society for Cardiovascular Angiography and Interventions (SCAI) shock stage and is greatest in SCAI stage E—refractory shock, including patients requiring temporary mechanical circulatory support (MCS) such as venoarterial extracorporeal membrane oxygenation (VA ECMO).1–3 Structured cardiogenic shock programs that use multidisciplinary teams, defined pathways, and standardized protocols have been associated with improved outcomes in this high-risk population.4–6

Objective

To compare outcomes among VA ECMO–supported patients at Tampa General Hospital when escalation or de-escalation was managed through the structured cardiogenic shock program versus without it.

Methods

The Tampa General Hospital cardiogenic shock program uses a single-call activation model that rapidly convenes interventional cardiology, advanced heart failure, critical care, cardiothoracic surgery, and MCS coordination teams.4,7 Escalation and de-escalation decisions are guided by hemodynamic, clinical, and imaging criteria. In this retrospective single-center analysis, we evaluated survival among consecutive patients supported with VA ECMO in 2025—including those escalated from intra-aortic balloon pump, Impella CP, Impella 5.5, or Impella RP Flex—comparing patients managed through a cardiogenic shock call with those managed without one.7,8

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Results

In 2025, 76 patients were supported with VA ECMO.

- **Cardiogenic shock call (n=53): survival 57% (30 of 53). Among survivors, 24 had native cardiac recovery, 5 underwent heart transplantation off VA ECMO, and 1 received a durable left ventricular assist device off VA ECMO; 23 patients died.**
- **No cardiogenic shock call (n=23): survival 39% (9 of 23); 14 patients died.**

Conclusion

A structured, multidisciplinary cardiogenic shock approach was associated with improved survival in VA ECMO–supported patients (57% vs 39%). Benefit was observed both during escalation from other temporary MCS devices and during de-escalation after hemodynamic improvement. These single-center, observational findings warrant prospective validation.

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