



**Saraschandra Vallabhajosyula**

Warren Alpert Medical School of Brown University; Lifespan Cardiovascular Institute, Providence, Rhode Island, USA

“The data are rapidly evolving with constant updates to our scientific knowledge and healthcare delivery”

Citation:

EMJ Cardiol. 2024;12[1]:72-74.  
<https://doi.org/10.33590/emjcardiol/OYML2101>.

**Q1** As one of only 100 physicians in the USA who is a quintuple board-certified physician in interventional cardiology, cardiovascular medicine, critical care medicine, and internal medicine, what inspired you to pursue such an extensive path in medicine, and what motivates you to continue researching?

Acute cardiovascular care is a very interesting field that lies at the intersection of cardiology, critical care medicine, interventional cardiology, advanced heart failure, and cardiac surgery. Physicians working in these fields must work closely with multidisciplinary teams consisting of physicians and non-physicians. Critical care cardiology is a young field, and in combination with either interventional cardiology or heart failure cardiology, it is aiding in developing unique care pathways and perspectives for these patients. Therefore, these considerations were important in shaping my interest in this field.

**Q2** You recently co-authored the paper ‘Factors associated with Acute Limb Ischemia in Cardiogenic Shock and downstream Clinical Outcomes: Insights from the Cardiogenic Shock Working Group’. What were the key takeaways, and how might this research advance clinical outcomes for patients with acute limb ischaemia?

The rate of acute limb ischaemia (ALI) was 6% among cardiogenic shock patients. Factors most associated with ALI include peripheral vascular disease and multiple mechanical circulatory

support devices. The downstream ramifications of ALI were dire, with a considerably higher risk of mortality. When we place these devices, we must be thoughtful and meticulous with our technique to improve outcomes for these sick patients.

**Q3** As Director of the Cardiac Intensive Care Unit (CICU) at the Rhode Island Hospital, what are you hoping to achieve within this role to ensure the highest quality of care for patients?

We are in very exciting times in the critical care cardiology space. The data are rapidly evolving with constant updates to our scientific knowledge and healthcare delivery. The focus in the CICU should be on processes of care, meticulous prevention of iatrogenic harm, and multidisciplinary management of high-acuity disease states. My hope is that the Brown/Lifespan CICU continues to be at the forefront of strong and dynamic healthcare delivery and serves as the local and national leader for critical care cardiology.

**Q4** Your work has highlighted the need for a multi-disciplinary approach to treating patients with cardiogenic shock, and your team has proposed the establishment of a Cardiogenic Shock Team Collaborative. What does this approach entail and how can it improve patient outcomes?

Cardiogenic shock continues to carry a high mortality rate despite contemporary care, with no breakthrough therapies shown to improve survival over the past

few decades. Managing patients with cardiogenic shock remains challenging even in well-resourced settings, and an important subgroup of patients may require cardiac replacement therapy. As a result, the idea of leveraging the collective cognitive and procedural proficiencies of multiple providers in a collaborative, team-based approach to care (the 'shock team') has been advocated by professional societies and implemented at select high-volume clinical centres. A slowly maturing evidence base has suggested that cardiogenic shock teams may improve patient outcomes. Although several registries exist that are beginning to inform care, particularly around therapeutic strategies of pharmacologic and mechanical circulatory support, none of these are currently focused on the shock team approach, multispecialty partnership, education, or process improvement. We propose the creation of a Cardiogenic Shock Team Collaborative, akin to the successful Pulmonary Embolism Response Team Consortium, with a goal to promote the sharing of care protocols, educate stakeholders, and discover how process and performance may influence patient outcomes, quality, resource consumption, and costs of care.

**Q5** During the Society for Cardiovascular Angiography & Interventions (SCAI) 2024 Scientific Sessions, you gave a talk on the current landscape of mechanical circulatory support devices. How do you foresee the landscape evolving in the future?

We are at a very interesting phase in this field. Mechanical circulatory support (MCS) has been in use for over 50 years, but only last year, the first positive clinical trial was published. There is much enthusiasm for these devices, but this must be tempered with

thoughtful patient selection and meticulous technique. Further, the development of multidisciplinary teams to determine the timing of insertion, escalation, and de-escalation of MCS is crucial to ensure the best outcomes for patients.

“**Cardiogenic shock continues to carry a high mortality rate despite contemporary care**”





**My proudest achievement in my career is to see my learners and trainees grow and flourish**



**Q6** You were recently awarded the SCAI's '30 in Their 30s' award for clinical excellence, and for encompassing the qualities expected of future leaders in interventional cardiology. So far in your career, what has been your proudest achievement?

I am very grateful to the SCAI for this kind recognition. Many congratulations to all my colleagues who were also recognised in the same category! My proudest achievement in my career is to see my learners and trainees grow and flourish. I have had the fortune of training many young minds, and I'm very privileged to be in a role to mentor them towards independent practice, either clinically or academically.

**Q7** You currently have more than 290 publications to your name for your research in areas including cardiogenic shock, acute myocardial infarction, high-risk percutaneous coronary intervention, mechanical circulatory support, non-cardiac organ failure, septic shock, and circulatory shock. What do you believe are the current gaps in the literature, and where will your research focus lie next?

Despite all the interest in cardiogenic shock and related disease states, the mortality remains very high at 40–50%. This is an important public health issue, and we need to come at it in a multi-pronged approach. Multidisciplinary teams, timely use of MCS, careful evaluation and prevention of end-organ damage, and long-term care for the prevention of re-hospitalisations are crucial.

