

Team approach to cardiac care increases chance of surviving heart attack complications

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When multidisciplinary health care teams were engaged in caring for patients suffering from refractory cardiogenic shock, a severe condition

that can occur after a heart attack, the likelihood of survival increased significantly, by approximately 50 percent. The proof of concept study by investigators at University of Utah Health was published online in the July issue of *Circulation*.

Patients seen by a multidisciplinary team had a 75 percent chance of survival at 30 days compared to a 50 percent survival rate for those treated before the new approach was implemented. The study, carried out at University Hospital in Salt Lake City, included 123 [patients](#) admitted between April 2015 and August 2018 and compared their data with the immediately preceding 121 patients.

"These patients are the sickest of the sick," says Iosif Taleb, M.D., first author of the study and a postdoctoral fellow in cardiology at U of U Health. "Taking a multidisciplinary approach provided a strong survival benefit compared to standard of care treatment."

Refractory cardiogenic shock happens after the heart and circulatory system fail despite optimal medical management, resulting in a lack of blood to adequately fuel organs in the body. To remedy the life-threatening situation, increasingly these patients are connected to a device that mechanically circulates the blood. Despite intervention, 40 to 50 percent die within 30 days. These grim statistics have remained steady worldwide for the past 30 years.

Because of differences in the cause of cardiogenic shock between patients and complexities associated with treating their condition, no published medical guidelines exist for this population. Stavros Drakos, M.D., Ph.D., senior author of the study and medical director of the heart failure and mechanical circulatory support program at U of U Health, wondered whether tapping into existing collaborations within the cardiovascular team could improve the situation for this subset of heart failure patients whose outcomes are amongst the worst.

To test the idea, Drakos and colleagues assembled providers into a single Shock Team. Comprised of a heart failure cardiologist, a cardiothoracic surgeon, an interventional cardiologist and an intensive care unit physician, together they combine their expertise to make decisions regarding each patient's treatment and care. That includes the best type of mechanical circulatory support, how adverse events that arise should be treated and other clinical and follow-up care decisions.

The approach improved survival rate at 30 days for both patients that were discharged and those that remained in the hospital regardless of whether they were originally admitted to University hospital or transferred from referring hospitals. Team decision-making did not appreciably impact the speed of care, as measured by the amount of time between presentation of refractory [cardiogenic shock](#) and placement on mechanical support.

Antigone Koliopoulou, M.D., co-author and U of U Health [cardiothoracic surgeon](#), reasons that their success emanates from the collective wisdom of the team. "We think that having a consensus medical decision while carefully discerning positives and negatives of each patient case from the point of view of all involved medical specialties is more likely to be appropriate compared to an individual physician's decision," she says.

At University Hospital, where the study was carried out, the Shock Team remains standard of care practice, demonstrating that the approach is sustainable. Larger [clinical trials](#) will need to be carried out to gauge effectiveness in different populations and hospitals.

"This work demonstrates that outcomes can improve when research and academic aspects of such clinical programs are developed in close connection," Drakos says. "Parallel development is mutually beneficial and comes full circle, increasing both the potential of the research and of

clinical and patient care."

More information: Iosif Taleb et al, Shock Team Approach in Refractory Cardiogenic Shock Requiring Short-Term Mechanical Circulatory Support, *Circulation* (2019). [DOI: 10.1161/CIRCULATIONAHA.119.040654](https://doi.org/10.1161/CIRCULATIONAHA.119.040654)

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