Sharp Decline in Heart Transplants During COVID-19

The number of heart transplants in the United States declined sharply during the beginning of the pandemic, even in areas of the country with few COVID-19 cases at the time, according to an analysis by researchers at Columbia University Irving Medical Center.

The study found that the number of heart transplants performed nationwide dropped 26% during the 8-week period marking the height of the pandemic in the Northeast compared to the prior 8 weeks. The drop in transplants was similar across regions and occurred even in areas with lower infection rates. The study was published in *JAMA Cardiology*.

"We had concerns that the availability of ICU beds and ventilators would impact our transplant patients, particularly in the Northeast," says Ersilia DeFilippis, MD, a postdoctoral clinical fellow in medicine and cardiology at Columbia University Vagelos College of Physicians and Surgeons and the first author of the paper.

"But we were surprised to see a decline in heart transplants in other parts of the country, where there were far fewer COVID-19 cases at that time. Our data show that this pandemic has had far-reaching impacts on the care our patients with advanced heart failure are receiving."

Heart transplant patients require a lot of hospital resources, DeFilippis says. "Many patients are sick enough to require hospitalisation prior to transplant, often in an intensive care unit, sometimes for weeks or months. Some of these patients are supported on temporary machines to help their hearts pump blood to the body. In addition, the transplant surgery itself requires a ventilator, blood products, and significant personnel. Patients then require intensive care unit monitoring in the immediate post-transplant period."

At the beginning of the pandemic, clinicians had to weigh the risks of exposing medically fragile patients with heart failure, though well enough to remain at home, to SARS-CoV-2 infection with the risks of delaying a life-changing surgery.

DeFilippis and her colleagues found that many clinicians reacted by taking their patients off the waitlist -- a measure typically pursued when a patient encounters a health issue that temporarily or permanently disqualifies them for transplantation but was expanded during the pandemic to include patients at risk of SARS-CoV-2 infection and to accommodate transplant centers that deferred acceptance of donor organs due to the pandemic.

They found that waitlist inactivations increased 75% during the pandemic, driven largely by the Northeast. At the same time, 37% fewer people were placed on heart transplant waitlists during the pandemic, with the most significant decreases occurring in the Northeast, the Great Lakes region, and the Southwest.

In addition, the researchers found that the availability of donor hearts decreased by 26% during the COVID-19 period compared with the pre-COVID-19 period.

"It is possible that limited access to testing for donors as well as restrictions on organ procurement organisations may have contributed to the decrease we observed in donor recovery," says DeFilippis.

Next, the researchers plan to study the impact of these changes on patient survival while on the transplant waitlist and post-transplant survival.

"It will be similarly important to determine how the pandemic has affected the timing of transplant evaluations and changes in left ventricular assist device implantation. As the pandemic continues, we must be mindful of the effects of these delays on our patients," says DeFilippis.

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