

Relatively few kidney patients need to start dialysis after undergoing TAVR

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The rate of patients with chronic kidney disease undergoing a heart procedure called transcatheter aortic valve replacement (TAVR) who eventually need to start dialysis is relatively low, suggests a new study published in *JACC: Cardiovascular Interventions*.

The findings will help physicians and [patients](#) with chronic kidney [disease](#) make more informed decisions about whether patients are good candidates for TAVR, said lead researcher James W. Hansen, DO, structural interventional cardiology fellow at the Lahey Hospital and Medical Center in Burlington, Massachusetts.

"Some patients are adamant that they do not want to go on [dialysis](#). Now doctors will be better able to answer the question of their risk of dialysis if they undergo [valve replacement](#)," he said.

For patients who previously may not have been considered good candidates for TAVR because of their underlying kidney disease, the new findings may allow doctors to be more aggressive with their care.

"Kidneys are often a marker for a patient's overall health," Hansen said. "Chronic kidney disease is a risk factor for heart disease, and developing chronic kidney disease is often secondary to many other diseases that are related to heart disease, such as high blood pressure and poorly controlled diabetes. Many of these patients have aortic stenosis, which requires a [valve](#) replacement."

TAVR is a minimally invasive surgical procedure that repairs the aortic valve without removing the damaged valve. Instead, a catheter is used to deliver a replacement valve to the site of the old valve where the new valve begins regulating blood flow. It is generally reserved for patients whose poor health makes an open-heart valve replacement too risky.

The study, using data from the Society of Thoracic Surgeons/American College of Cardiology TVT Registry, included 44,778 patients who underwent TAVR from November 2011 through September 2015. Patients were organized into groups according to stage of chronic kidney disease; combined stages 1 and 2 (the least severe) served as a control group. The stages of kidney disease are measured by how much blood can be filtered by the kidney in a given period of time. None of the patients were on dialysis at the start of the study.

The researchers found that among patients with stage 3 chronic kidney disease, 2.2 percent had newly started dialysis 30 days after surgery and 3.5 percent had started dialysis one year after surgery. In contrast, among patients with stages 1 and 2 chronic kidney disease, 0.7 percent had started dialysis after 30 days and 1.2 percent started dialysis after one year. Stage 3 patients represented 43 percent of the patient cohort.

"While patients with more severe chronic kidney disease do have a higher rate of both death and dialysis at 30 days and one year, we're encouraged that the absolute rate of new dialysis is relatively low in stage 3 patients," Hansen said. Until now, there has been no comprehensive data on the risk of dialysis for chronic kidney patients undergoing TAVR, he said. "While we have no way to predict any individual's outcome, we can tell patients that out of a cohort of patients similar to yourself, this is the likelihood of what can happen."

Patients with stage 4 or 5 [kidney](#) disease have a greater risk of dialysis at one month and one year compared with stage 3 patients. The study found

one-third of stage 4 patients died within one year of TAVR, with about one-sixth requiring dialysis. In stage 5 patients, more than one-third of patients required dialysis within 30 days, and almost two-thirds required it at one year.

In an editorial accompanying the study, Israel M. Barbash, MD, of the Sackler School of Medicine at Tel Aviv University, Israel, agreed that the findings provide a reassuring message. They point out that only patients with advanced [chronic kidney disease](#) suffer from high rates of dialysis (35 percent) at 30 days.

"In this context, it should be emphasized that this high-risk group represents a small minority of the entire TAVR population, less than 6 percent of the patients," he said.

More information: *JACC: Cardiovascular Interventions*, [DOI: 10.1016/j.jcin.2017.09.001](#)

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