

Percutaneous repair of valve leaks: A new treatment for patients at high risk of cardiac surgery

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A Paravalvular regurgitation, or leakage, commonly affects valvular prostheses, particularly artificial valves placed percutaneously according to data presented at the 2013 Transcatheter Cardiovascular Therapeutics (TCT) conference. Building on existing data, research cardiologist Paul Sorajja MD, of the Minneapolis Heart Institute Foundation delivered a presentation on current percutaneous techniques that sheds light on the complexities of the treatment of paravalvular prosthetic regurgitation, or heart valve leakage. This research represents new advances for patients who have few or no surgical options

Significant paravalvular prosthetic [regurgitation](#) occurs in as many as 1 in 7 [patients](#) suffering from valvular [heart disease](#). Traditional treatment has been open [heart surgery](#). Percutaneous repair of paravalvular prosthetic regurgitation can now be performed with a high rate of procedural success and has become the preferred initial therapeutic option, particularly in patients at significant risk for more invasive surgery.

"Paravalvular prosthetic regurgitation, or heart valve leakage, recently has been associated with not only heart failure and anemia but also a greater risk of death after what is initially deemed to be a successful surgery," said Paul Sorajja, MD, research cardiologist at the Minneapolis Heart Institute Foundation and Director, Center for Valve and Structural Heart Disease, Minneapolis Heart Institute at Abbott Northwestern

Hospital. "New data has shown that leakage is actually more common in percutaneous valves than surgically implanted prostheses. How we manage paravalvular leaks therefore becomes increasingly important as more and more patients are receiving valves percutaneously. These patients are typically at high-risk of [cardiac surgery](#) so being able to treat these leaks with new percutaneous techniques is more important than ever before."

Two-year data from a current clinical trial called PARTNER II cites follow-up analysis of patients at high-risk of cardiac surgery who underwent transcatheter aortic valve replacement, or TAVR, and is one study referenced by Dr. Sorajja. In that study, the presence of prosthetic paravalvular regurgitation, even when mild, was associated with 1.5- to 2-fold increase in the risk of death.

"We do not yet know if percutaneous repair can address this increased risk, but it is incredibly important to be able to successfully treat these defects percutaneously, as these patients have few, if any, surgical options," said Dr. Sorajja.

The data suggests that while percutaneous repair of paravalvular prosthetic regurgitation can lead to durable symptom relief in selected patients, mortality remains significant and long-term clinical efficacy is highly dependent on residual regurgitation. Patient selection, comprehensive imaging, and operator experience are keys to the success of percutaneous repair of paravalvular leak.

"There is a new significant learning curve, which can be addressed with a detailed patient evaluation, close collaboration with colleagues who have expertise in imaging, and operator experience in new techniques," said Dr. Sorajja. These techniques currently are available only at tertiary referral centers, but should become more available as more interventionalists adopt them and bring them to the rapidly increasing

number of patients who would benefit from their use."

Provided by Minneapolis Heart Institute Foundation

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