

Gene test shown to measure heart function after transplant

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New research suggests a genomic test may provide detailed information on how well a transplanted heart is performing. The gene expression profiling (GEP) test, known as the Allomap® test, is currently used to detect the absence of heart transplant rejection instead of routine invasive heart muscle biopsies, but has now been shown to correlate with oxygen saturation levels, the pressure in the heart before pumping, and the electrical properties of the transplanted heart. These measures are crucial to understanding how well the transplanted heart is functioning.

The research will be presented on Tues., March 27, at the American College of Cardiology's 56th Annual Scientific Session in New Orleans by Martin Cadeiras, M.D., postdoctoral research fellow in the lab of Mario Deng, M.D., director of cardiac transplantation research and associate professor of clinical medicine at Columbia University College of Physicians and Surgeons, and cardiologist at NewYork-Presbyterian Hospital/Columbia University Medical Center. The presentation is based on preliminary data on 80 patients who received the GEP test. Physicians hope to confirm these results in future studies.

"Understanding how the GEP score differentiates heart transplant function may provide a valuable tool to help tailor therapies to meet the specific needs of each heart transplant patient," said Dr. Deng.

Until recently, following a heart transplant, patients had to go through invasive heart-muscle biopsies to check for organ rejection. The GEP test is a non-invasive alternative that provides a molecular score

measuring the body's immune response to the heart transplant. A below-threshold test score identifies transplant patients who are at very low risk for rejecting their transplanted hearts and who can be monitored and managed using noninvasive methods such as the GEP test. Those patients may benefit from being more aggressively weaned off intensive immunosuppressive regimens. This new research suggests that the use of this test may have much greater potential than simply identifying patients without rejection.

Approximately 30 percent of all heart transplant patients reject their new heart at least once in the first year after transplantation. Transplant patients are then treated with anti-rejection medications, which increase the potential for medication side effects.

The GEP test is covered by Medicare and is available to heart transplant patients, ages 15 and older, after two months post-transplantation.

Source: Columbia University Medical Center

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