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## Commentary: It is not only about the valve, but also the patients and their condition

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### CENTRAL MESSAGE

Valve repair or replacement in previous transplant recipients of various organs remains a difficult task because of numerous comorbid conditions. Ideally, it should be performed in stable patients.

Patient survival after solid-organ transplantation including kidney, liver, lung, and heart increased steadily over the last 25 years. From the United Network for Organ Sharing database, it was established that more than 2 million life-years were saved during a 25-year study period.<sup>1</sup> These life-years saved are in patients with end-organ failure among the sickest. This truly remarkable achievement comes with a cost for heart transplant recipients and all others with the transition from an acute or subacute critical condition beforehand to a more chronic state of contained disease after transplantation.

In the current issue of the *Journal*, Ius and colleagues<sup>2</sup> report on 127 previous recipients of various transplanted organs who underwent conventional repair or replacement of an aortic, a mitral, or a tricuspid valve an average of 7 years after transplantation. In-hospital mortality averaged 20% of patients and was especially worse in patients with acute endocarditis and in those undergoing concomitant transplantation and valve surgery. Moreover, reoperation for bleeding, renal failure with dialysis, and serious infection episodes were unusually frequent after valve surgery. Five-year survival after valve replacement or repair averaged 59% of patients, a lower than expected result.

Other investigators have underscored that the greater number of comorbidities including hypertension, dyslipidemia, chronic renal disease, peripheral and cerebrovascular disease, coronary artery disease, and chronic lung disease affect long-term transplant recipients. Moreover, the concomitant use of various immunosuppressive drugs,

including prednisone, usually has profound effects on tissue fragility, delayed wound healing, and serious infectious complications.

In the current study of Ius and colleagues,<sup>2</sup> 9% of patients (9/102) had structural valve deterioration develop in a bioprosthesis implanted after organ transplantation, with 10-year freedom from structural valve deterioration averaging 70%. Younger age at implantation remains a significant risk factor.

On the basis of current data showing high in-hospital mortality and poor 5-year survival after conventional surgical replacement or repair of cardiac valves, we suggest that echocardiographic evaluation should be included in the pretransplant evaluation and the follow-up of all transplant recipients. The presence of significant valvular disease should be addressed before solid-organ transplantation, and all patients should be rapidly screened for acute endocarditis with an echocardiogram if clinically indicated. Oral antibiotic prevention of endocarditis should also be considered for these immunosuppressed patients.

Valve repair or replacement with a bioprosthesis should be performed on an elective basis and on patients in stable condition. Minimally invasive and percutaneous valve replacement will likely play increasing roles in the future treatment of patients with significant aortic, mitral, and tricuspid valve disease after solid-organ transplantation.

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