LETTERS TO THE EDITOR

To the Editor— Rhythmologic challenges following heart transplantation

Heterotopic heart transplantation (hHTx) was first performed in humans in 1974. It found its way into broader application in the late 1980s and early 1990s, especially for patients with elevated pulmonary vascular resistance. Laredo et al[1] have recently described a case of successful catheter ablation of ventricular tachycardia in a patient 26 years after hHTx. This article is of particular interest for 2 reasons. First, it describes the challenging approach of performing catheter ablation in a setting of hHTx, especially for ventricular arrhythmia, which is only scarcely described in the literature. Second, the authors casually mention a case of internationally remarkable survival of 26 years after hHTx.

In our center we have performed hHTx in 1 child and 16 adult patients. The child showed cardiac recovery, allowing explantation of the transplanted heart about 4 years after hHTx.[2] Four of the 16 adult patients displayed long-term survival of >10, >13, or >18 years, including 1 patient of 27 years survival by now. In 2 cases we faced complex ventricular arrhythmias, which were treated by medication/cardioversion, by an implantable cardioverter-defibrillator previously implanted in the native heart, or by external defibrillation.[3] Even in orthotopic HTx, arrhythmias can be challenging as described for catheter ablation of atrial tachycardia because of recipient-to-donor transatrial conduction.[4] Taken together, we fully support the article by Laredo et al[1] with the messages that hHTx is capable of showing considerable survival in selected cases. We further stress that follow-up of patients who underwent HTx should comprise rhythmologic expertise since such patients have the potential to develop complex as well as HTx-specific and rarely seen arrhythmias.

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Reply to the Editor—Rhythmologic Challenges Following Heart Transplantation

Three decades after its first description, heterotopic heart transplantation (HHTx) has fell into obscurity in most heart transplantation centers. Recent clinical publications on HHTx are scarce, although HHTx remains an important experimental model in the field of transplantation immunology. Nevertheless, several challenging conceptual and technical issues may arise in the management of HHTx survivors. In this perspective, we thought that describing a case of ventricular tachycardia ablation in an HHTx recipient in the modern era of 3-dimensional mapping might be useful. We fully agree with Sindermann et al, who stated that HHTx survivors should be closely monitored for ventricular arrhythmias (VAs), as the recipient heart with structural disease carries ventricular arrhythmogenic substrate, which may have worsened over time, and as VAs may be clinically silent or well tolerated, with the donor heart acting as a biological biventricular assistance, which was the case for the patient described in our report. Risk of VAs in HHTx has been described since the 1980s,[1] but our report shows a contemporary management with electroanatomic mapping–guided catheter ablation.

In the developing era of mechanical assistance for end-stage heart failure, the question of the possible interests and contemporary indications of HHTx in selected patients with high pulmonary resistances or with size mismatch between the graft and the recipient is certainly debatable.[2,3] However, despite the long survival of the individual described in our report, we must state here that our report did not address this question and did not add evidence in favor of a broader use of HHTx.

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