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Biopente injury to the tricuspid valve in a cardiac allograft recipient visualized by three-dimensional echocardiography

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Tricuspid regurgitation (TR) is the most commonly seen valvular pathology after orthotopic heart transplantation (OHT). The reported incidence ranges from 47 to 98%, depending on the definition of significant regurgitation and the surgical method. Multiple aetiologies are implicated in the development of TR after OHT; percutaneous transvenous endomyocardial biopsy (EMB), performed to detect rejection, is the most important contributor to significant TR by causing anatomic disruption of the valvular structure.

A 38-year-old man with ischaemic cardiomyopathy, underwent orthotopic biastral cardiac transplantation 6 years ago. During his follow-up, acute rejection occurred at the second month and first year, which were successfully treated. The patient had been undergoing regular echocardiographic examinations according to our institutional echocardiography follow-up protocol for OHT patients. On these follow-up visits, echocardiography revealed only mild TR until his sixth post-operative year.

At the 6th year cardiac catheterization, coronary angiography and EMB were performed at the same time. The procedure was apparently uneventful, and the patient was discharged from the hospital the day after with no rejection. However, on his next transthoracic echocardiogram examination, we noticed an increase in the TR. Two separate TR jets were visualized: mild central jet accompanied by another more eccentric jet (see Supplementary data online, Figure S1). There was no damage on the chordae and no flail leaflet on two-dimensional images. When we performed three-dimensional echocardiography, we found out a hole at the basal portion of the septal leaflet, possibly caused by the biopente.

Supplementary data
Supplementary data are available at European Journal of Echocardiography online.