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Personalised surgical treatment of functional mitral regurgitation

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Chapter 6b

Left ventricular reconstruction with endocardectomy

Reply to editor

Annelieke H.J. Petrus, Robert J.M. Klautz, Jerry Braun

Reply to the editor

We thank Dr Babokin for his comments¹ on our article.² Ventricular arrhythmias (VA) are an important contributor to late sudden cardiac death in patients with ischaemic heart failure. VA in these patients can be caused by scar-related re-entry (involving the scar borderzone), or to heart-failure related mechanoelectrical changes. During left ventricular reconstruction surgery (LVR), the scar tissue left behind the endoventricular patch may leave the re-entry site in place, while at the same time making it no longer accessible for endocardial catheter ablation. Concomitant arrhythmia surgery may reduce the risk of VA, as indicated by Dr. Babokin.¹ We initially adopted epi-endocardial circular cryoablation at the scar borderzone. A previous study in our centre showed that the majority (71%) of patients referred for LVR without previously documented VA was inducible for aneurysm-related ventricular arrhythmia by programmed electrostimulation (PES).³ However, there was no difference in VA occurrence and ICD therapy during long-term follow-up in patients who underwent PES-guided encircling cryoablation compared to patients without PES-guided cryoablation. This finding prompted us to reintroduce endocardectomy (removing the entire diseased endocardium down to the scar borderzone) as a standard part of LVR surgery in 2012, which is after the interval in which the patients in the current study were treated. We agree with Dr Babokin that endocardectomy should be routinely performed in LVR surgery. Di Donato classified patients with ischaemic cardiomyopathy according to the shape of the left ventricle into type 1 (true LV aneurysm, geometrically delimited by two systolic borders between thickening and nonthickening myocardium), type 2 (intermediate aneurysm, only one border between thickening and nonthickening myocardium) and type 3 LV shape (ischaemic dilated cardiomyopathy, with LV shape without borders).⁴ She demonstrated a trend towards better survival after LVR for patients with type 1 and 2 compared to patients with type 3 LV shape. In our hospital, only patients with refractory heart failure due to a post-infarction anteroseptal LV aneurysm (type 1 or type 2) are considered for LVR surgery, whereas patients with ischaemic dilated cardiomyopathy (type 3) are not. Indeed, for type 3 patients the Heart Team might first consider alternatives such as LVAD implantation or cardiac transplantation. In our study², we identify preoperative echocardiographic parameters (high WMSI and moderate MR) that apply to type 1 and 2 patients and that may help the Heart Team in determining the best intervention for these patients.

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