Transcatheter tricuspid valve edge-to-edge repair for severe tricuspid regurgitation in a Chinese patient

An 80-year-old man with recurrent right heart failure despite optimal heart failure therapy, was referred to our institution. He had inferior myocardial infarction, had undergone a coronary artery bypass graft operation and had a permanent pacemaker.

Echocardiography showed a dilated right ventricle with impaired systolic function (Tricuspid annular plane systolic excursion (TAPSE) 10 mm), a dilated tricuspid annulus (septal-lateral diameter 4 cm) and massive (4+) functional tricuspid regurgitation (TR) (figure 1A). The tricuspid valve (TV) was structurally intact without impingement or perforation by the pacemaker lead (figure 2A,B). The heart team did not consider him fit for open repair because of the previous sternotomy and his frailty (score 6/9),1 and recommended percutaneous edge-to-edge TV repair with the MitraClip device.

The procedure was performed, without any complications, under general anaesthesia with interventional guidance by transoesophageal echocardiography and fluoroscopy (figure 2). The first and the second clips were positioned at the anteroseptal commissure (figure 2C) and the posteroseptal commissure, respectively, resulting in moderate (2+) TR (figure 2H), and mean transvalvular gradient 3 mm Hg. At 1-month follow-up, the patient reported symptomatic improvement from New York Heart Association class IV to class II, and echocardiography showed two clips at TV with moderate TR, and improvement in hepatic vein reversal (figure 1D,H).

Transcatheter treatment of severe TR with the edge-to-edge MitraClip technique has been reported in predominantly Caucasian populations.2 3 There is racial difference in right heart structure and function that may affect effectiveness of transcatheter intervention.
Images in cardiovascular medicine

in Asian patients. To the best of our knowledge, this is the first report of MitraClip treatment for TR in Asia. We demonstrated the potential feasibility, safety and effectiveness of this technique in Chinese patients.

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Funding The authors received no financial support for the research, authorship and/or publication of this article.

Competing interests APWL received speaker honorarium from Abbott and Philips Healthcare.

Patient consent Parental/guardian consent obtained.

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Ethics approval Chief of Service of Department of Medicine & Therapeutics, Prince of Wales Hospital, Hong Kong; Chairman, Central Committee of Cardiology, Hospital Authority, Hong Kong.

Provenance and peer review Not commissioned; externally peer reviewed.

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To cite Cheung GSH, Kam KKH, Lam Y, et al. Heart Asia 2018;10:e010997.

Heart Asia 2018;10:e010997. doi:10.1136/heartasia-2017-010997

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