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Transcatheter edge-to-edge repair of a torrential tricuspid regurgitation with a single 4th generation TriClip™ system

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Main document

A 81-year-old female with permanent atrial fibrillation was referred for transcatheter edge-to-edge tricuspid valve repair (TTVR) in view of symptomatic and torrential tricuspid regurgitation (TR) (Figure 1(a)). The procedure was performed under general anaesthesia and 3D-transesophageal (TEE) guidance. Procedural TEE confirmed a torrential TR, with a large leaflet malcoaptation resulting from annulus dilatation and tethering of the tricuspid septal leaflet (Figure 2(a–c)). A first attempt to place a Triclip G4 XTW in a central position between septal and anterior leaflets was unsuccessful due to a large coaptation gap at that level. A decision was made to place the clip in a more commissural position (Figure 2(d)), where successful grasping of anterior and septal leaflets resulted in a dramatic reduction of TR severity from torrential to mild + with complete abolition of the antero-septal jet (Figure 2(e,f)). The index hospitalisation was uneventful and the patient was discharged 2 days after the procedure. At one-month follow-up, the patient had only mild dyspnoea and control echocardiography demonstrated normal right ventricular function with mild residual TR (Figure 1(b)). TTVR with the Triclip system has recently emerged as a safe and effective option for high-risk patients with severe and symptomatic TR unsuitable

for surgery [1]. However, continuous improvements in device technology are needed in order to overcome the well-known challenges of treating patients with severe TR. The recent Triclip G4 XTW system allows simultaneous and independent leaflet grasping, and has 50% wider implant arm than the previous XT iteration, with the potential to capture more leaflet tissues. In our patient, the use of a single Triclip G4 XTW in an antero-septal position resulted in a dramatic reduction in TR severity and favourable short-term outcome.

Disclosure statement

Drs. Aminian is proctor and consultant for Abbott. No potential conflict of interest was reported by the author(s).

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Reference

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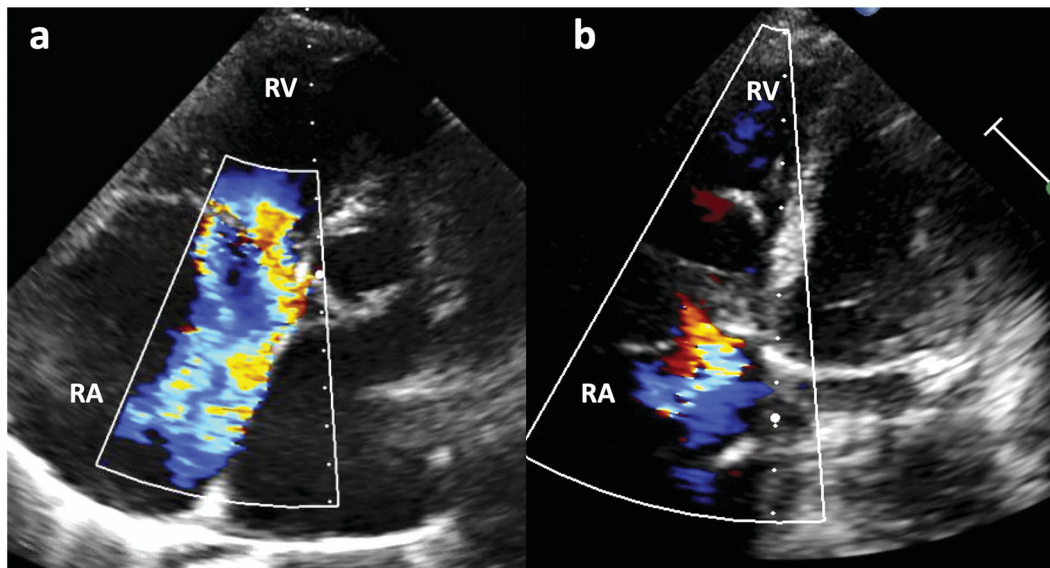


Figure 1. Transthoracic echocardiography before (a) and after (b) Triclip placement. RV: right ventricle; RA: right atrium.

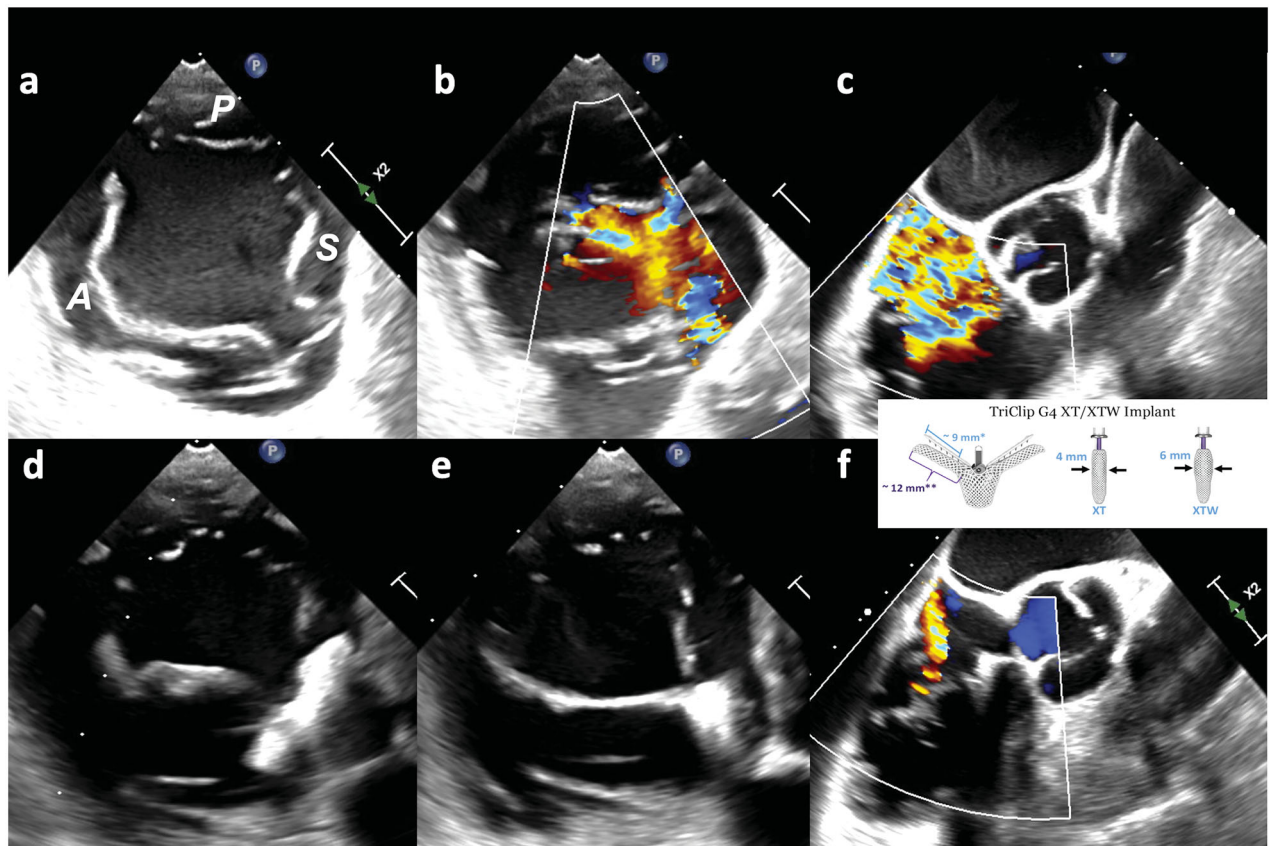


Figure 2. (a) Transgastric short axis view of the tricuspid valve showing the 3 leaflets. S: septal leaflet; A: anterior leaflet; P: posterior leaflet. (b,c) Transgastric short axis (b) and right ventricular inflow (c) views showing torrential TR. (d,e) Transgastric short axis view was used to position TriClip XTW under the valve for implant arm perpendicularity (d) and grasping of anterior and septal leaflets (e). (f) Mild residual TR after Triclip release.