Tricuspid leaflet flail after Micra™ leadless pacemaker implantation: a case report.

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The patient gave his consent to proceed with the submission by signing the patient consent form.

Abstract

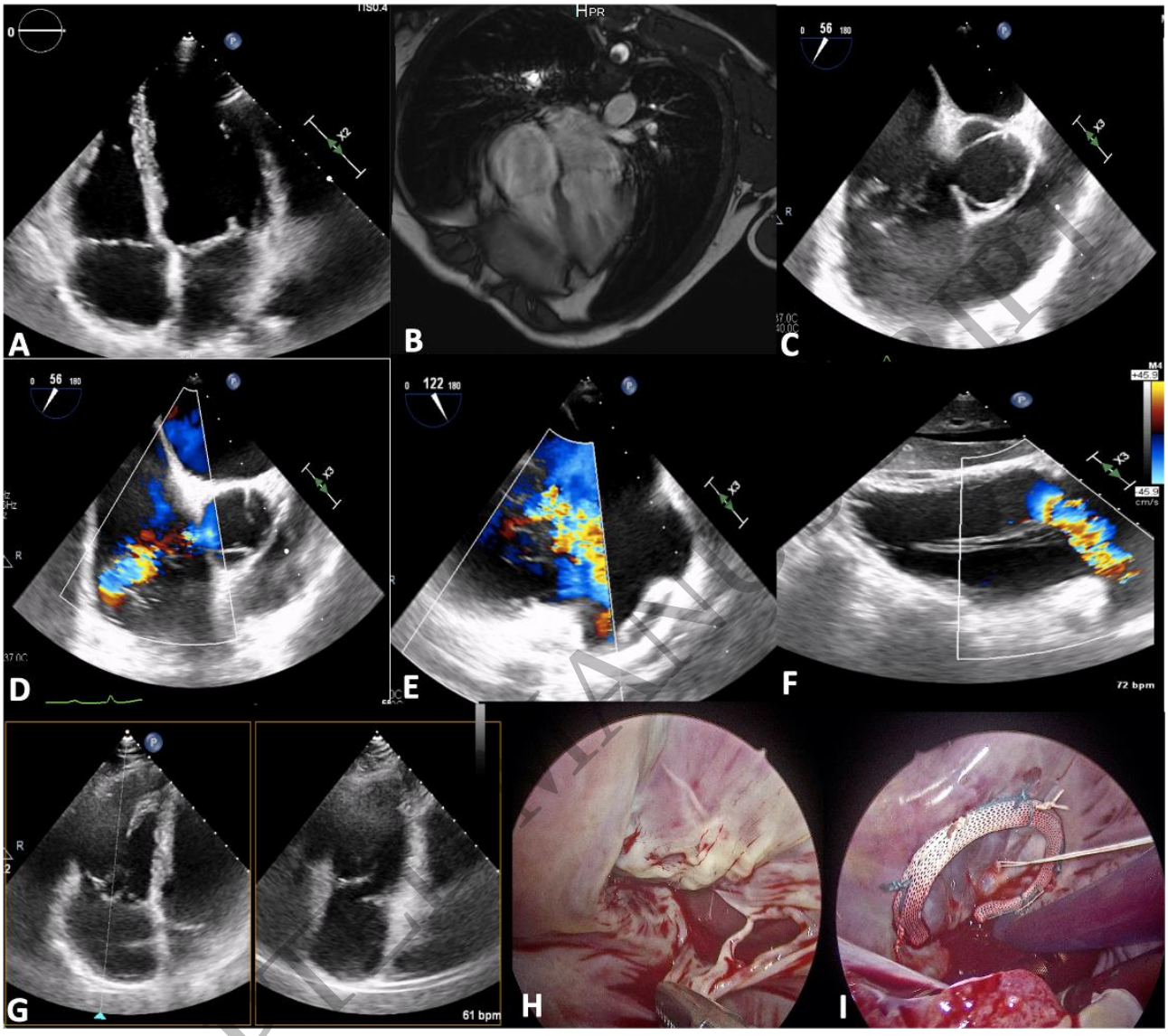
We describe the first reported case of Micra™ leadless pacemaker implantation complicated by tricuspid posterior leaflet flail with severe regurgitation in a 29-year-old man affected by high degree atrio-ventricular block.

Text

A 29-year-old underwent right ventricular Micra™ (Medtronic, Minneapolis, MN, USA) leadless pacemaker (PM) implantation at another institution for worsening but asymptomatic advanced atrio-ventricular block (AVB). The patient did not refer family history of cardiomyopathies and he was diagnosed with second-degree type 2 AVB at the age of 15; over the following years he developed a third-degree AVB with a high-rate junctional escape rhythm. Transthoracic echocardiography (TTE) and a cardiac MRI *(Panel A and B)* performed before Micra™ implantation, documented slightly increased bi-ventricular volumes, normal bi-ventricular systolic function and absence of late gadolinium enhancement. At the beginning of the procedure, a temporary PM was positioned for safety reasons; the young man complained chest discomfort afterwards, however the chest X-Ray resulted normal.

Thereafter, the TTE performed at our outpatient clinic 3 months later showed severe tricuspid regurgitation apparently caused by posterior leaflet chordal rupture, and right ventricular (RV) overload, confirmed by transesophageal echocardiography (TEE) *(Panel C-G).* The patient was referred for cardiac surgery evaluation and, through a right periareolar access, was performed an endoscopic optimal tricuspid valve repair, the Micra™device was removed and an epicardial pacemaker was implanted *(Panel H-I)*.

The Micra™ leadless pacemaker consists of a tiny device (25,9-6,7 mm), delivered by a 23F introducer in the right ventricle, which adheres by small nitinol anchors to the endocardium. To date, this is the first reported case of tricuspid flail after Micra™ implantation, which is usually considered an atraumatic device for the tricuspid valve. It could be noticed that several serious complications might be avoided with TEE guidance which ensures safer procedures.



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