Successful implant of a leadless pacemaker with tine-based fixation next to an abandoned battery-depleted screw-in helix fixation leadless device

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An 84-year old man was admitted with presyncope due to battery failure of a leadless pacemaker (Nanostim™ St. Jude Medical) which had been implanted for bradyarrhythmias in 2014. Based on the presence of an occlusion in the subclavian vein and the patient’s preferences a leadless pacemaker (Micra™ Medtronic) was chosen as replacement. As the patient had concerns about complications from an extraction procedure the replacement device was implanted without extraction of the dysfunctional leadless pacemaker. Access was through the femoral vein using a 23-French introducer. The device was placed at the mid-septum of the right ventricle sufficiently distant from the previous device to avoid mechanical device interaction. A pull-and-hold fixation test was performed under fluoroscopy, depicted in the figure in RAO (Figure A) and LAO (Figure B) views (abandoned device indicated by arrows), to ensure the leadless pacemaker was securely embedded in the myocardium. Excellent electrical parameters, and unaffected papillary muscles and tricuspid valve function were confirmed at the time of implant and at 3 months follow-up. This represents the first published implantation of a leadless pacemaker in a human patient with an abandoned leadless device. The procedure presents an alternative to current options when battery depletion or failure occurs in leadless pacemakers.

The full-length version of this report can be viewed at: http://www.escardio.org/Guidelines-&-Education/E-learning/Clinical-cases/Electrophysiology/EP-Case-Reports.

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