Single-center experience of leadless pacemaker implantation, including one case which was extracted.

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Introduction: Leadless pacemaker offer the benefits of cardiac pacing with the potential for a significant decrease in many of the risks associated with conventional pacemaker, including hematoma formation, pneumothorax, lead-related complications, and vascular obstruction. However, cardiac tamponade or complete dislodgement as a complication are serious problems. We report a single center experience of 18 cases of leadless pacemaker implantation including one case which was extracted in our hospital.

Methods: Eighteen cases of leadless pacemaker implantation were performed at our hospital from October 2017 to June 2019. The information of these patients was extracted from our database and the characteristics, outcomes and so on were investigated retrospectively.

Result: Twelve of 18 cases were AF brady, 3 cases were AVB, and 3 cases were SSS. Also, 4 of these cases whose device was extracted because of a device infection and 4 were dialysis patient with limited blood access. The implantation procedure of all cases was successful, but one of the leadless pacemaker was dislodged incompletely on the next day and was extracted. The device was placed in the right ventricular septum in 14 cases and in the apex in 4 cases. Average value of measured amplitude at implantation 1.6 ± 1.2 mV, impedance 552.3 ± 82.6 ohm and threshold 1.1 ± 0.7 V (0.4 ms), 1.5 ± 1.2 mV, 507.6 ± 82.6 ohm and 0.9 ± 0.6 V at one month and 1.7 ± 1.2 mV, 488.6 ± 114.4 ohm and 1.1 ± 0.9 V at 6 months after implantation. Procedure-related complications were 4 cases of hematoma, 1 case dislodgement, and no cardiac tamponade happened at our hospital. The extraction procedure was extremely difficult, requiring four hours.

Conclusion: Leadless pacemaker is an excellent device, but we need to be well informed about management of complications.