Early experience of leadless pacemaker implantation in a single Japanese center

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Introduction: The leadless pacemaker (Micra Transcatheter Pacing System; Micra TPS) is recognized as a viable alternative to transvenous single chamber pacemaker system. The safety and efficacy have been reported in western countries. However, the studies with Micra TPS in Japanese have not well been known. The present study aimed to evaluate the safety and efficacy of Micra implantation in our institution.

Methods: Twenty seven patients implanted Micra TPS in our institution from September 2017 to January 2019 were recruited. We investigated retrospectively the efficiency of Micra implantation.

Result: The mean age and BMI of study patients was 85 years-old, and 21kg/m2, respectively. Sixteen patients (59.2%) had dementia, and 3 (11.1%) showed chronic obstructive lung disease. Antithrombotic agents were administered in 12 patients (44.4%). The primary disease of the patients was as follows, Sick sinus syndrome (n=12, 44.4%), atrioventricular block (n=8, 29.6%), and Bradycardia atrial fibrillation (n=7, 25.9%). Twenty-six patients (96.3%) were successfully implanted Micra TPS without complication. One patient (3.7%) needed reoperation next day after the operation due to dislodgement. Within 30 day after operation, the pacing threshold became worse than just after implantation in 3 patients (11.1%).

Conclusion: The Micra TPS implantation is likely to be alternative to transvenous single chamber pacemaker. However, it is necessary to pay attention to the threshold especially during the early phase of postoperative period.