

Outcomes of The MICRA Leadless Pacemaker in the Octogenarian Population: US URBAN EXPERIENCE IN AN ACADEMIC TERTIARY CENTER

Majd Hemam, MD¹, Saahil Jumkhwala, MD, MBA¹, Ashkan Hashemi, MD¹, Hasan Ali, DO¹, Emad Aziz, DO, MBCHB, FACC, FHRS².

1. Department of Medicine, Rutgers New Jersey Medical School, Newark, NJ, USA.

2. Division of Cardiology and Electrophysiology, Rutgers New Jersey Medical School, Newark, NJ, USA

Introduction

The MICRA leadless pacemaker was shown to be a safe and an effective alternative to traditional transvenous pacemakers. Leadless pacemakers are recommended for patients who are at high risk for device pocket infections, like the elderly. In this study, we aim to assess if we are following these guidelines by comparing implantation rates among the octogenarian urban population as compared to younger patients.

Methods

All consecutive patients with standard indications for pacemaker placement at a large urban center (n=92) who underwent the MICRA device placement were retrospectively included in this study. The patients were divided into 2 groups: those above 80 years old and those below 80. Baseline characteristics, periprocedural and follow-up outcomes were then compared.

Results

- A total of 92 patients were included in this study; of which 46 were Octogenarian (89 ± 5 years old, 63% female, 65% Black, 15% Hispanic) and 46 were <80-year-old (65 ± 13 years old, 28% female, 56% Black, 17% Hispanic).
- Women who received a MICRA implantation were 4 times more likely to be older than 80 years old (OR 4.3, 95% CI[1.8,10.4]). Particularly, black women were 3 times more likely to be ≥80 years old at the time of implant (OR 3.1, 95 CI[1.1,9.5]).
- Indications for implantation were sinus node dysfunction (33% vs 44%, p=0.283), atrial fibrillation with bradyarrhythmia (33% vs 22%, p=0.241) and atrioventricular block (34% vs 34%, p=1.0) for those ≥80 vs <80 years, respectively.
- Fluoroscopy time was similar between the two age groups (3.3 ± 2.2 vs 2.5 ± 1.2, p=0.55), for ≥80 vs <80 years, respectively.
- The mean follow-up was 20 ± 13 and 20 ± 11 months (p=0.493), for ≥80 vs <80 years, respectively.
- No complications were noted during any of the procedures in both groups. No device or procedure related deaths were noted.

Discussion

The aim of this study was to see if we are following guidelines regarding placement of leadless pacemakers in our hospital, especially in the elderly. We wanted to accomplish this by specifically wanted to comparing implantations rates, fluoroscopy time, follow up rates and rate of complications in the octogenarian urban population. Our study showed that, in minority patients, both men and women, older than 80 years old, the MICRA leadless pacemaker is a safe and effective alternative to traditional transvenous pacing. MICRA leadless pacemakers were placed for a variety of indications. Fluoroscopy times and mean follow up times were also similar between the two age groups. Lastly, there were no complications observed with regards to the procedure or device implantation, demonstrating that this is a safe procedure in this demographic.

Conflict of Interest and Financial Disclosure

We confirm that there are no known conflicts of interest associated with this publication and there has been no financial support required.

Contact

Corresponding author: Majd Hemam
Department of Medicine
Rutgers New Jersey Medical School, 150
Bergen Street, UH I-248,
Newark, NJ 07101, USA
Tel: +1-973-972-6056
Fax: +1-973-972-3129
E-mail: majd.hemam@rutgers.edu