

Management of Nanostim leadless pacemaker early-life battery failures. A single center experience

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Background/introduction Early studies of the Nanostim leadless pacemaker demonstrated technical feasibility effective pacing performance at the short-term. However, recently the Nanostim proved to be susceptible to early-life battery failures.

Purpose In this study, we addressed the following research questions:

- 1) What percentage of Nanostim LPs experience early-life battery failure?
- 2) Is Nanostim extraction and subsequent pacemaker reimplantation safe and effective?
- 3) Is three monthly follow-up under the Nanostim advisory effective at preventing Nanostim LP related in-between hospitalizations?

Methods In a retrospective study, we collected data of 49 Nanostim implanted patients with a mean follow up of 3 (± 1.5) years at our tertiary hospital.

Results Nanostim early-life battery failure in our population was 37% (18/49). Extraction of 14 Nanostim pacemakers (device age 1040 ± 467 days) in an older population (80 ± 7 years) was safe (0 complications) and effective (80% extraction success, 100% reimplantation success). All known cases of early-life battery failure were identified during the three monthly follow-up consultations.

Conclusions Nanostim LP early-life battery failure is substantially higher than previously reported.

In case of dysfunction Nanostim extraction in an older population is safe and effective. Three monthly follow-up is effective at preventing in-between Nanostim related hospitalization.

Abstract Figure. Management of Nanostim battery failure

