NEED FOR LEAD REPLACEMENT DURING LONG TERM FOLLOW UP OF PACEMAKER PATIENTS IN A SINGLE OPERATOR LARGE VOLUME CENTER IN INDIA

Naik AM, MD, DM, FHRS, Naik AA. CIMS Hospital, Ahmedabad, India.

Introduction:
Pacemaker implantation is established therapy for patients suffering from bradycardia. During ensuing follow up (FU), some leads may degenerate or malfunction; necessitating lead replacement when the device reaches Elective Replacement Indicator (ERI) or earlier. Some devices may be upgraded, needing additional lead deployment.

Methods:
Permanent Pacemaker Implantation (PPI) procedures performed from 2001 to 2019 by a single operator in a large volume center in Western India were analyzed. Patients had been followed up meticulously with excellent retention rate for replacements.

Results:
Permanent Pacemaker Implantation (PPI) was performed in 863 Pts from 2001 to 2019 (Figure 1). Single chamber PPI had been performed in 355 of 863 Pts (41.13 %) and remaining 508 Pts (58.86 %) underwent Dual Chamber PPI. Over the 18-year FU period (mean 84 months), device replacement was performed in 173 Pts (20.04%) on reaching ERI.

10 leads needed to be replaced in these 173 patients (5.78% of replacements) for malfunction / degeneration/ suboptimal parameters or due to physical growth in pediatric patients. (Figure 2).
Atrial lead was replaced in 7 Pts and Ventricular lead in 3 Pts.
Atrial lead was added in 6 Pts (3.46%) for upgradation to dual chamber pacemaker system.

Overall, lead-related procedure was needed in 16 of 173 replacement procedures (9.24 %).

Conclusion:
During Pacemaker replacement for ERI, approximately 1 / 10th of Patients needed simultaneous lead related procedure. This should be an essential discussion during counselling of patients at initial implant and follow up.
Figure 1: Number of Pacemaker Implantations and Replacements.

Figure 2: Pacemaker Replacements and Lead Related Procedures.