Abstract: **P1545**

**Multipoint pacing reduces heart failure hospitalizations and associated costs: an analysis of the IRON-MPP study**

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**Topic(s):**
Public Health and Health Economics - Other

**Citation:**

Background: Management of heart failure (HF) imparts a heavy burden on the healthcare system. Early evidence suggests that the MultiPoint PacingTM (MPP) feature may improve response to cardiac resynchronization therapy (CRT) in patients with HF, but an associated reduction in healthcare utilization has yet to be determined.

Purpose: Evaluate impact of MPP on HF hospitalizations (HFH) and associated costs.

Methods: The national Registry On Multipoint Left Ventricular Pacing (IRON-MPP) (NCT02606071) was a prospective, multicenter registry of patients implanted with MPP-capable CRT devices. MPP activation and programming were at the discretion of each implanting physician. Diagnosis and procedure codes were collected for each HFH. HFH was identified by a primary or secondary diagnosis of HF. HFH rates were compared between patients with MPP (MPP ON) versus single-site left ventricular pacing (MPP OFF), based on programming at CRT implant. A sub-analysis excluded crossover patients with MPP activation or deactivation occurring post-implant. National Italian reimbursement rates were used to estimate the total cost of each HFH and a non-parametric bootstrapped model was used to compare HFH-related costs between groups.

Results: Study cohort included 190 MPP OFF and 128 MPP ON patients, with no differences in age (70.8 ± 9.7 years), gender (81% male), or baseline characteristics. At 1 and 2 years, patients in the MPP ON group were associated with lower cumulative rates of HFH compared to MPP OFF (1 year: HR 0.14, 95% CI 0.044-0.47, p=0.0014; 2 years: HR 0.38, 95% CI 0.19-0.79, p=0.0090). The finding persisted in a subgroup of patients with consistent MPP activation through follow-up (1 year: HR 0.19, 95% CI 0.055-0.62, p=0.0061; 2 years: HR 0.39, 95% CI 0.18-0.88, p=0.022). Total accumulated per patient costs associated with HFH were significantly lower in the MPP ON group compared to the MPP OFF group at 1 year (€101 ± 50 vs. €698 ± 195, p<0.001) and 2 years (€366 ± 149 vs. €801 ± 203, p=0.038).

Conclusions: In a multicenter national registry, activation of the MPP feature was associated with a significant reduction in cumulative HF hospitalizations and cost savings after one and two years of follow-up.
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