The Sound Of Heart Failure; Heartlogic Heart Failure Index Alerts For A Patient With Left Ventricular Pacing Turned Off

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Introduction: Prevention of re-admissions in Chronic Heart Failure (CHF) patients remains a significant challenge with 1-month readmission rate of 20-30%. The HeartLogic Heart Failure Index (HFI) is a new device-based diagnostic algorithm (Boston Scientific) designed to identify worsening CHF using a combination of heart sounds, thoracic impedance and breathing patterns.

Methods: To show the correlation of HFI to CHF symptoms and its utility in CHF care.

Result: A 77yo male with ischaemic heart disease received a Boston Scientific Resonate X4 Cardiac Resynchronization Therapy Defibrillator (CRT-D) following CHF progression (NYHA Class III, LVEF 30%). He was admitted with decompensated CHF following cessation of empagliflozin at 25 days post implant. He was treated with intravenous diuretics and fluid restriction. As the patient deteriorated after CRT commencement, the left ventricular (LV) pacing was turned off. He remained dyspnoeic on exertion and had 2kg weight gain at follow-up 1 month later. The HFI has exceeded threshold (B) with persistently deranged HeartLogic parameters (A). The LV pacing was re-initiated. At final follow-up, the patient has improved with LVEF 40-45%, NYHA Class II and 100% LV pacing. The HFI correlated well with his clinical symptoms.

Conclusion: The HFI algorithm allows early detection of worsening CHF. Our case study highlights the potential of this algorithm in guiding CHF management and reducing hospitalizations.