OVERCOMING THE LIMITATIONS OF SELECTIVE HIS BUNDLE PACING USING NON SELECTIVE HIS BUNDLE PACING- A COMPARATIVE STUDY

Varsha Rakshitha Prakash
Prakash Vadagenalli Sathyanarayana Rao

Introduction: His Bundle pacing, a novel method used in lieu of RV pacing to overcome the limitations of the same, is associated with shortcomings of its own such as i) the need for a higher threshold to capture the His Bundle region ii) a lower R wave amplitude, iii) longer procedure and fluoroscopy time as also iv) a higher incidence of lead dislodgement, to mention a few. This study aims to assess whether Non Selective His Bundle Pacing can overcome the shortcomings of His Bundle Pacing while retaining the benefits of the same.

Methods: 125 Patients requiring pace maker implantation/CRT who underwent Selective/ Non Selective His Bundle pacing were recruited for the study. Various parameters (mentioned below) were compared in the 2 groups: The various parameters compared were i) capture threshold obtained at the time of implantation at 1msec ii) capture threshold obtained 4 weeks after implantation iii) Amplitude of the R wave (mv) iv) Fluoroscopy time in minutes v) Lead implantation time in minutes vi) percentage of ventricular pacing achieved vii) LV Ejection fraction after two years (in patients with an initial normal and a low ejection fraction).

Result: enclosed in table 1

Conclusion: 1. Non selective His bundle pacing appears to perform better in terms of short and long term outcomes compared to Selective His Bundle pacing 2. Compared to selective, non selective His bundle pacing is better in terms of i) lower capture threshold, ii) taller R wave amplitude, iii) reduced fluoroscopy exposure iv) shorter time taken for implantation as also v) minimal/nil lead dislodgement 3. Non selective His bundle pacing compares equally well with regard to effect on LV function and could be considered as a good alternative to selective His bundle pacing.