

Permanent His Bundle Pacing: Description and Comparison of Four Implantation Techniques

Andrea Dell'quila

Cardiology Consultant, Cardiac Electrophysiology and Electrostimulation Unit

Aims

Permanent His bundle pacing (HBP) is the most physiological pacing modality, and new implantation systems are now available. The aim of the present study was to describe and compare four different techniques to perform HBP.

Methods

We included all consecutive patients who underwent a HBP attempt in our initial experience between June 2020 and May 2022. The success and characteristics of the procedure were compared among four implantation techniques: the Biotronik Selectra 3D sheath with Solia S60 lead (Selectra 3D), the Boston Scientific Site Selective Pacing Catheter with Ingevity lead (SSPC), the Abbott steerable stylet locator with Tendril lead (Locator), and the use of a standard stylet manually pre-shaped with a conventional pacing lead (Curved stylet).

Results

Ninety-eight patients (median age 79 years [interquartile range, 73-83], 83% men) were identified. The Selectra 3D technique was used in 43 procedures, SSPC in 26, Locator in 18 and Curved stylet in 11.

The groups had similar clinical characteristics. Overall, procedural success was achieved in 91 patients (93%) with similar proportions among groups ($p=0.986$). Fluoroscopy and procedural times were 6.0 (4.4-8.5) and 60 (45-75) minutes, respectively, without significant differences ($p=0.333$ and $p=0.790$). The rate of selective capture, the pacing threshold, and the paced QRS duration were also comparable. There was one pre-discharge HBP lead dislodgment (1%) that required implant revision.

Conclusions:

In our experience, four techniques for HBP achieved comparable results in terms of safety and effectiveness. The availability of different systems may lead to widespread use of physiological pacing.