

### The back-up lead in his bundle pacing: evolution over the years

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**Background:** His bundle pacing (HBP) can be affected by high thresholds and low sensing. Thus, in selected patients including a back-up lead is advisable.

**Objective:** Single-centre retrospective analysis of a large HBP experience, focusing on the back-up lead utilization over the years.

**Methods:** 677 pts (76±8 years; 433 males) were implanted with HBP from 2004 to 2019 July. The pts received S-HBP (67%) or NS-HBP by the 3830 lead. The pacing indications were AV block 54%, sinus node disease 17%, slow atrial fibrillation 23%, heart failure 6%. Ischemic cardiopathy was found in 26%; hypertension in 83%, diabetes in 28% pts. Baseline QRS duration was 123±32 ms and EF 56±12%.

**Results:** 266 (39%) pts received the back-up lead. In sinus rhythm we implanted 3-chamber PM (His lead:LV port; VV delay 80 ms; His pulses and

apical pacing during the refractory period). 30 pts (11%) received a particular type of 3-chamber PM which provides back-up pacing only if His capture fails, thus saving energy. In atrial fibrillation 2-chamber PM was implanted (His lead: atrial port, DVI). We recorded a significant decrease of back-up lead use over the years, strictly related to operators/centre experience (>70% during the first years, nearly 10% during the last year). The C315 fixed curve sheath, strongly contributed to the rapid reduction of back-up lead use thanks to better lead fixation and stability.

**Conclusion:** The back-up lead utilization is progressively decreasing. It is strictly related to the operator/centre experience. The presence of the back-up lead could strengthen the Hisian pacing reliability, potentially impacting pacing indication even in advanced conduction disturbances and saving device longevity.

