

## Acute performance of Left Bundle Branch Area Pacing in Left Bundle Branch Block and non-Left Bundle Branch Block patients: a single-center experience

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### BACKGROUND

Left bundle branch area pacing (LBBAP) has emerged as an innovative conduction system pacing strategy aiming at providing physiological ventricular activation. We aimed at assessing acute performance of LBBAP both in left bundle branch block (LBBB) and non-LBBB patients with bradyarrhythmia and heart failure indications.

### METHODS

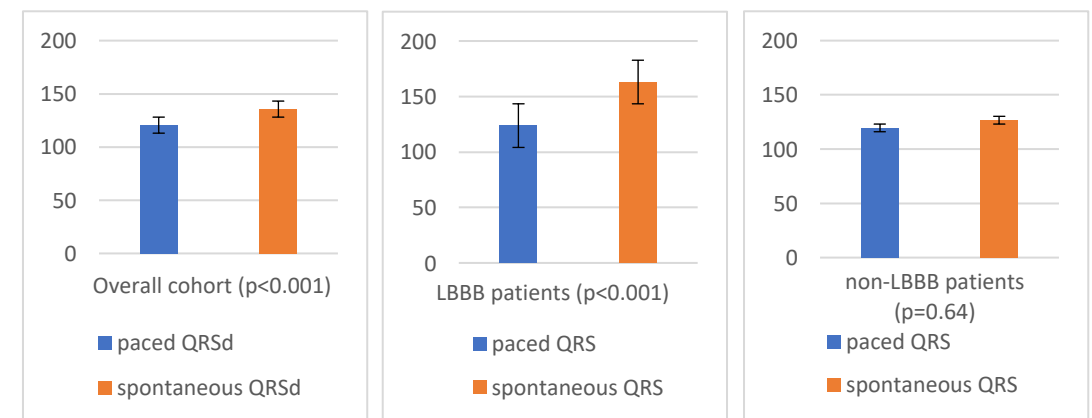
Consecutive patients who received LBBAP for pacing and cardiac resynchronization therapy (CRT) indications were enrolled to our Unit of Electrophysiology between October 2022 and July 2023. LBBAP was performed using both stylet-driven and lumen-less leads provided by all major manufacturers. Implant success rates, procedural duration and complications, acute electrophysiological and electrocardiographic parameters were assessed.

### RESULTS

A total of 100 patients (median age 73.1 [55-91] years old, 72% male) were analyzed. Pacing indication included CRT in 50%, AV block in 42% and AV node ablation in 8% of cases. There were 24 (24%) and 76 (76%) patients in the LBBB and non-LBBB groups, respectively. Overall, implant success rate was 97%. The mean paced QRS duration (QRSd) vs spontaneous QRSd in the overall cohort was  $120.6 \pm 19.1$  ms vs  $135.7 \pm 34.8$  ms ( $p < .001$ ). Similarly, a significant reduction in QRSd was observed in LBBB patients for paced vs spontaneous QRS ( $123.7 \pm 14.0$  ms vs  $163.0 \pm 27.9$  ms,  $p < .001$ ). In non-LBBB group, paced vs spontaneous QRSd was  $119.6 \pm 20.4$  ms vs  $126.7 \pm 32.0$  ms ( $p = .064$ ).

### CONCLUSIONS

Our single-center experience showed a successful LBBAP both in patients with pacing and CRT indications. LBBAP provided good electrocardiographic parameters with significant QRS narrowing in LBBB patients and no significant QRS widening in non-LBBB group.



Graphic comparison between paced and spontaneous QRSd in overall cohort and in population stratified by QRS morphology (LBBB and non-LBBB patients)