responses to the reduction in pressure. Results of a double-blind randomized study have shown that CNT delivered using the Moderato system (BackBeat Medical, an Orchestra BioMed Company), resulted in a clinically significant between group reduction of 8.1 mmHg ($p=0.01$) in 24-hours ambulatory SBP (aSBP) after 6 months. Office SBP (oSBP) also showed a between group reduction of 12.3 mmHg ($p=0.02$). At the end of the study eligible control patients were crossed over to treatment and the impact of CNT was evaluated.
Objective: Safety and efficacy in patients crossed over to CNT after 6 and 18 months of therapy.
Methods: Fourteen patients eligible for cross over were activated and followed for additional 18 months. aSBP was measured after 6 months and oSBP after 6 and 18 months.
Results: Standard pacing did not significantly influence SBP after 6 months. Paired data analysis showed a reduction in aSBP of 2.3 ± 8.4 mmHg to 135.5 ± 9.9 mmHg, and an increase in oSBP of 2.4 ± 23.6 mmHg to 159.0 ± 24.3 mmHg ($p=$N.S). Upon activation of therapy aSBP immediately dropped by 16.7 ± 12.9 mmHg ($P<0.01$) and remained low after 6 months (-10.3 ± 2.5 mmHg, $p<0.01$); similar in value to the reduction observed in the treatment group after the first 6 months. oSBP decreased from pre-activation values by 13.1 ± 26.6 and 13.8 ± 28.7 mmHg at 6 and 18 months, ($p<0.05$, respectively). Anti-HTN medications remained stable in 6 patients and were reduced in 6 patients during the activation period. A 91 y.o. patient had sudden cardiac death.
Conclusion: The data demonstrates a stable and significant reduction in office and ambulatory systolic blood pressure upon CNT activation in patients serving as their own control and further supports the efficacy and safety of this therapy in the pacemaker population.

B-PO03-044

SAFETY AND FEASIBILITY OF LEFT POSTERIOR FASCICULAR PACING: A PROSPECTIVE SINGLE CENTER STUDY

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Background: Left bundle branch area pacing (LBBAP) is a novel conduction system pacing (CSP) technique where the lead is implanted at the main left bundle branch trunk. There are limited data regarding implantation of the lead distally to capture the left posterior fascicle (LPF).
Objective: To evaluate the safety and feasibility of achieving CSP by LPF pacing.
Methods: Patients (pts) referred for pacemaker implantation between 02/2019- 02/2021 were considered for LBBAP. LBBAP was performed by implantation of a Medtronic 3830 lead approximately 2cm distal to the His bundle. If unsuccessful, lead was repositioned distally and inferiorly on the septum to capture the LPF. Paced QRS morphology was analyzed for RBBB pattern in V1, as well as left axis deviation indicative of LPF capture. Implant success rates, complications and electrophysiological parameters were assessed in pts with and without LPF capture (nLPF).
Results: LBBAP was successful in 307/342 pts (90%). 274 ECGs were available for analysis. LPF capture was noted in 69 (25.2%) pts. Baseline, ECG, and implantation characteristics are summarized in table 1. Procedural and fluoroscopy time were similar between groups. Paced QRSd for the LPF group was 119 ± 12 ms vs. 114 ± 10 ms for the nLPF group. Mean left ventricular activation time (LVAT) at high output in the LPF vs. non-LPF group was 69.5 ± 10.5 ms vs. 72.0 ± 10ms. Pacing thresholds and R waves were similar and stable at follow-up period (table). One patient in the nLPF group experienced lead dislodgement.
Conclusion: LPF pacing is safe, feasible, and a reliable alternative to achieve physiologic pacing when lead cannot be implanted at the LBB main trunk.

	LPF Cohort n=69 (25.2%)	nLPF Cohort n=205 (774.8%)
Age (mean±SD)	71.2 ± 12.9 yrs	72.5 ± 11.6 yrs
Female (%)	59.4	58.9
Baseline QRS duration (mean±SD)	124 ± 34 ms	117 ± 32 ms
Procedure time (mean±SD)	94 ± 23 mins	91 ± 28 mins
Fluoroscopy time (mean±SD)	12 ± 7 mins	11 ± 7 mins
Depth of lead in interventricular septum (mean)	13 ± 2 mm	13 ± 2 mm
Paced QRS duration (mean±SD)	119 ± 12 ms	114 ± 10 ms
Mean LVAT 10/5 (mean±SD)	69.5 ± 10.5 ms	72.0 ± 10ms
Mean LVAT 3/1 (mean±SD)	72.1 ± 10.6 ms	75.0 ± 10.4ms
Pacing thresholds at 0.5ms (mean±SD)	0.66 ± 0.30 V	0.64 ± 0.27 V
R waves (mean±SD)	10.4 ± 5.7 mV	10.3 ± 5.6 mV
Pacing thresholds at 1 month follow-up (mean±SD)	0.77 ± 0.27 V	0.73 ± 0.23 V
R waves at 1 month follow-up (mean±SD)	15.7 ± 5.2 mV	15.2 ± 5.4 mV
Pacing thresholds at 3 month follow-up (mean±SD)	0.74 ± 0.23 V	0.83 ± 0.23 V
R waves at 3 month follow-up (mean±SD)	17.2 ± 4.5 mV	14.9 ± 5.6 mV
Pacing thresholds at 6 month follow-up (mean±SD)	0.72 ± 0.18 V	0.83 ± 0.23 V
R waves at 6 month follow-up (mean±SD)	18.0 ± 4.0 mV	15.3 ± 5.3 mV

B-PO03-045

LEFT BUNDLE BRANCH AREA PACING IN PATIENTS WITH AV NODAL AND INFRA NODAL DISEASE: A MULTICENTER PROSPECTIVE STUDY

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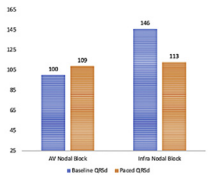
Background: The reported success rates of His bundle pacing (HBP) in patients with AV nodal disease is over 90% and in infra nodal disease is only about 50-75%. The success rates of left bundle branch area pacing (LBBAP) in this cohort is not well studied.
Objective: To evaluate the feasibility and safety of LBBAP in patients with AV nodal and infra nodal disease.
Methods: Patients with AV block at nodal and infra nodal level (Mobitz I/II, advanced AV block and complete heart block) referred for pacemaker implantation at two centers between 02/2019-1/2021 were considered for LBBAP using 3830 lumenless lead. Implant success rates and electrophysiological parameters were assessed.
Results: LBBAP was successful in 321/346 (93%) patients (93% AV nodal; 92% infra nodal). The baseline demographics, procedural characteristics in patients with AV nodal vs infra nodal disease is shown in table. There was no difference in the mean procedural duration and fluoroscopic duration in both groups. Baseline QRSd and paced QRSd was significantly narrower in the AV nodal group compared with infra-nodal AV block group (Figure). Mean LV activation times were short and constant and not different between the groups. LBB potentials were noted in 35% of patients in each group. Pacing threshold and R waves were 0.77 ± 0.3V@0.4ms and 11 ± 5mV at implant and

0.79±0.2V@0.4ms and 16±5mV at a mean follow-up of 167±172 days (range 25-662 days).
Conclusion: LBBA pacing is safe and feasible with high success rates in patients with AV block irrespective of nodal or infra nodal level of block.

Baseline Demographics and Procedural Characteristics in Successful LBBAP Cases

	AV Nodal Block (N=139)	Infra Nodal Block (N=182)	P value
Success rate (%)	93% (139/149)	92% (182/197)	0.83
Age (years)	72 ± 13	72 ± 12	0.98
Female	56 (40%)	65 (36%)	0.41
Hypertension	83 (61%)	115 (63%)	0.64
Diabetes mellitus	37 (27%)	52 (29%)	0.81
CAD	29 (21%)	56 (31%)	0.05
CABG	11 (8%)	24 (13%)	0.15
RBBB	0	107 (37%)	<0.001
LBBB	0	40 (22%)	<0.001
IVCD	0	13 (7%)	<0.001
Single chamber device	15 (11%)	14 (8%)	0.43
Dual chamber device	124 (89%)	163 (89%)	0.70
CRT	0	5 (3%)	0.72
Procedure time (min)	65 ± 30	69 ± 31	0.19
Fluoroscopic time (min)	7.8 ± 5.5	9.1 ± 6.2	0.06
Baseline QRSd ms	100 ± 19	146 ± 18	<0.001
Paced QRSd ms	109 ± 10	113 ±12	<0.001
LVAT at 5V	73 ± 11	74 ± 13	0.21
LVAT at 1V	76 ± 11	77 ± 13	0.45
Transition from NS-LBBAP to S-LBBAP	75%	69%	0.30



B-PO03-046

FLUOROSCOPIC PREDICTORS OF ACCEPTABLE CAPTURE THRESHOLD AT IMPLANTATION OF MICRA-TRANSCATHETER PACING SYSTEM

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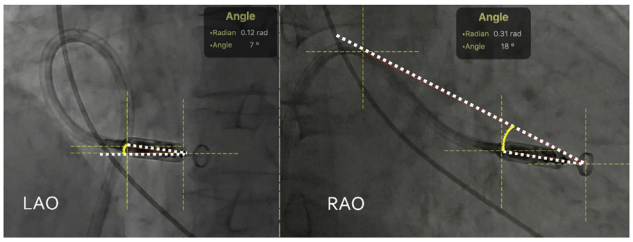
Background: At implantation, multiple deployments of leadless pacemaker (Micra) increases the risk of cardiac injury. Fluoroscopic predictors of acceptable capture threshold prior to the deployment would help to minimize the deployment attempt.
Objective: We hypothesized that the direction and slack of the delivery catheter may predict an adequate capture threshold.
Methods: Sixty patients with Micra were enrolled. Prior to device deployment, direction of delivery catheter toward the ventricular septum was evaluated by the angle between cup and the horizontal plane in LAO and a gooseneck deformity of catheter shaft was quantified by the angle between the tangent line of shaft and cup during diastole in RAO. An acceptable threshold was defined as <2.0V at 0.24ms.
Results: A total of 95 deployments was evaluated; 56 acceptable and 39 high capture threshold. The elevation angle of cup against the septum in the acceptable threshold was significantly smaller (30±21 vs. 40±16 degrees; p=0.01), and the deflection angle of catheter shaft was larger (7±5 vs. 5±4 degrees; p<0.01) than in the high threshold group. By ROC curve analysis, the horizontal angle of cup of ≦30 degrees and the deflection angle of catheter shaft of ≧6 degrees predicted an acceptable threshold after deployment. By satisfied with either of the angles, the acceptable threshold was achieved in 77 % of the first deployment.
Conclusion: The near horizontal direction of the delivery catheter in LAO or a gooseneck deformity during diastole in RAO may predict the acceptable capture threshold after deployment. The shape of delivery catheter should be evaluated by multiple fluoroscopic views for the successful implantation of Micra.



B-PO03-048

BEAT BY BEAT HFECG DETECTION WITH A WEARABLE DEVICE: TINY IMPERCEPTIBLE DETAILS DECIDE EVERYTHING!

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Background: Ventricular electrical activity delay (VED) using high frequency ECG(HFECG) provides greater accuracy in estimating the left ventricular (LV) septo-lateral conduction delay than mere QRS duration. Real time measurement identifying microvolt ECG data in 250-500 Hz refines patient choice verifies electrical resynchronisation. Procedural delays are frequent due to lack of real time feedback.
Objective: To design a wearable device that would provide cardiologists with real time streaming data of HFECG from 150-500 Hz in uV range.
Methods: A portable wearable 5x5 cm ECG patch is used to sample raw ECG at 1000 samples per second. The Device resolution is 286 nV, floor noise 3 uV, filter amplification 1uV√Hz.nData is filtered with proprietary algorithms. Display is done with Hilberts transform. The original signal of ECG and the extracted envelope are synchronised and presented for clinical analysis.
Results: 55 consecutive patients were screened and consented for the study, 52 had normal ECGs and were recruited. Analysis of data used to study the Hf-ECG (150-250 Hz) show details presented. HFECG was extractable in 94.54% of the patients. 3 people out of 55 had noisy ECG from which HfECG was not visible by our algorithms. Amplitudes of Hf-ECG in various leads are in fig.
Maximum voltages were obtained in V2 and V5. The limb leads had the smallest amplitudes of HFECG, and was extractable only in lead 3.
Conclusion: Beat to beat recording of HFECG and resultant calculation of VED can be done with great accuracy and speed using our novel device thereby opening up a frontier for the use of the same in clinical practice, in choice of patients for CRT and His bundle pacing and real time during the procedure.