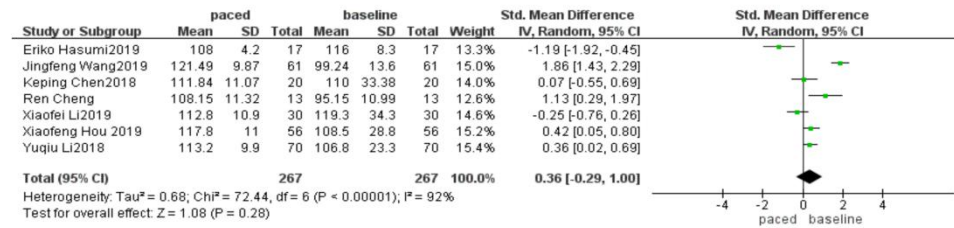


(Figure 1 Flowchart of selection process for articles included in the meta-analysis)

Authors	Year	Design	Indication	Patient number	successful LBBAP	Follow-up time	Implant success(%)
Xiaofeng Hou ^[9]	2019	prospective cohort study	SND(16) or AVB(21) or AF with slow ventricular rate(19)	59	56	1M,6M	96%
Keping Chen ^[10]	2018	prospective cohort study	SND(15) or AVB(1) or RBBB(2) or LBBB(1)	20	20	3M	100%
Eriko Hasumi ^[11]	2019	prospective cohort study	HBP failed	21	17	1W,3M,6M	81%
Weiwei Zhang ^[12]	2019	prospective cohort study	HF and LBBB	11	11	3M,6M,12M	100%
Xiaofei Li ^[13]	2019	retrospective cohort study	AVB	33	30	3M	90.9%
Pugazhendhi Vijayaraman ^[14]	2019	prospective cohort study	SND(23) or AVB(54) or CRT(11) or HBP failed(7) or AV node ablation (7)	100	93	3M	93%
Yuqiu Li ^[15]	2018	prospective cohort study	SND(59) or AVB(28)	87	70	3M	80.4%
Jingfeng Wang ^[16]	2019	prospective cohort study	SND(22) or AVB(36) or AF with slow ventricular rate(8)	66	61	1M,3M,6M	92%
Su Lan ^[17]	2019	prospective cohort study	AVB	139	139	1M,3M,6M,12M	100%
ZENG Chun-miao ^[18]	2019	prospective cohort study	AVB(24) or AF with slow ventricular rate(1)	25	25	1W,3M,6M	100%
Chen Lu ^[19]	2019	retrospective cohort study	SND or AVB or AF with slow ventricular rate	27	18	3M	66.7%
QIAN Zhihong ^[20]	2018	retrospective cohort study	AF with slow ventricular rate	10	10	7D,30D,3M,6M	100%
Ren Cheng ^[21]	2019	retrospective cohort study	SND(6) or AVB (9) or AF with slow ventricular rate (3) CRT failed(1) pacemaker reimplantation(1)	20	19	1W,3M	95%
SND=sinus node dysfunction; AVB=atrioventricular block; AF=atrial fibrillation; HBP=His bundle pacing; LBBB=; CRT=Cardiac resynchronization therapy; LBBB=left bundle branch block; HF=atrioventricular block; AV node=atrioventricular node							

Table 1 General description of the included studies

A. QRS duration <120ms



B. QRS duration >120ms

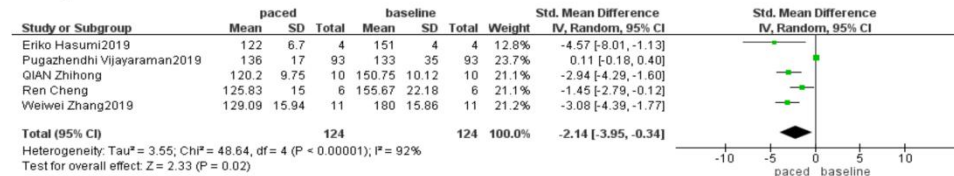


Figure 2 Baseline and paced QRS duration. Forest plot and pooled analysis of baseline versus paced QRS duration in patients with QRS duration < 120ms (A) and QRS duration > 120ms (B). Permanent LBBAP had no change for QRS duration in patients with QRS duration < 120ms and resulted in narrow paced QRS duration of 133.1 ± 16.7 ms after implantation for patients with QRS duration > 120ms. CI=confidence interval; LBBAP=left bundle branch area pacing; SD = standard deviation.

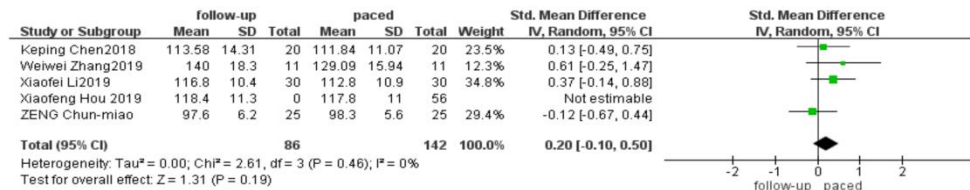


Figure 3 Follow-up of QRS duration. Forest plot and pooled analysis of follow-up of QRS duration versus paced QRS duration and QRS duration could keep stable in a long time. Abbreviations as in Figure 2.

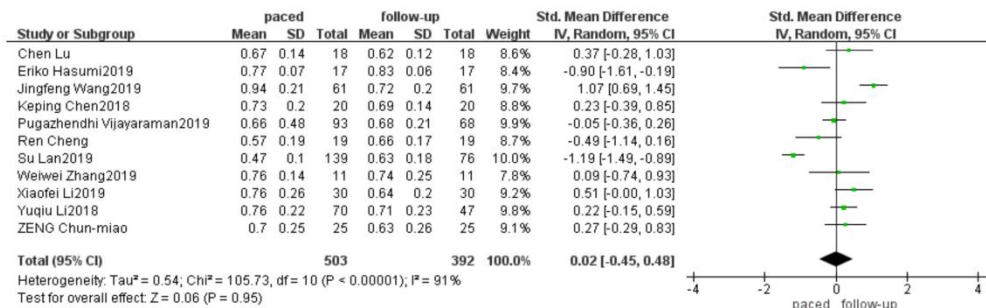


Figure 4 Capture threshold at baseline and follow-up. Forest plot and pooled analysis of capture threshold at baseline versus follow-up in the included patients. Capture threshold were not increased at follow-up. Abbreviations as in Figure 2.

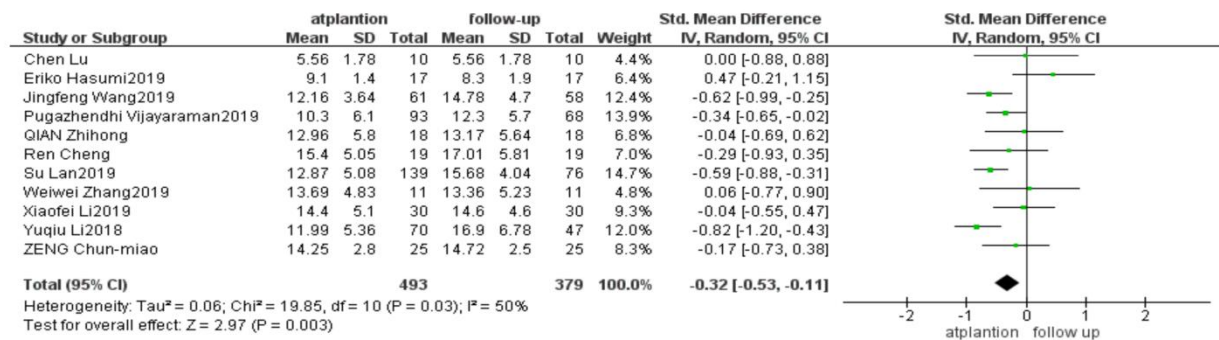


Figure 5 R-wave amplitude at baseline and follow-up. Forest plot and pooled analysis of R-wave amplitude at baseline versus follow-up in the included patients. R-wave amplitude had a great improved at follow-up. Abbreviations as in Figure 2.

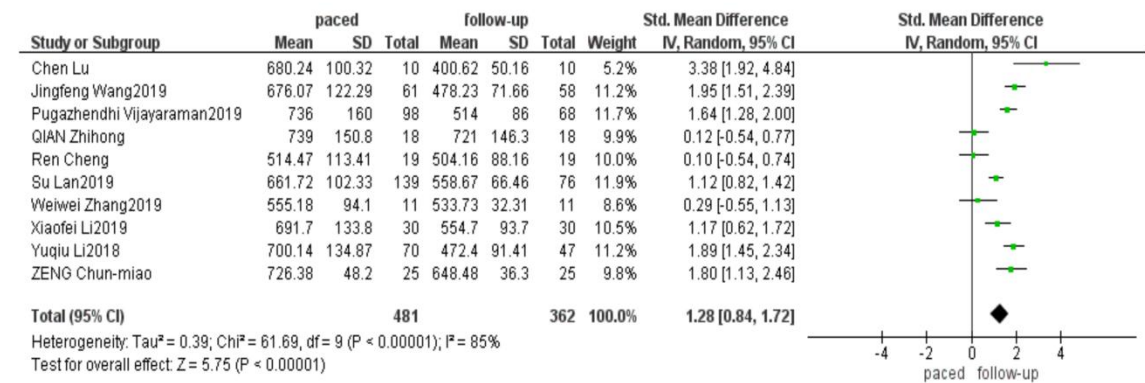
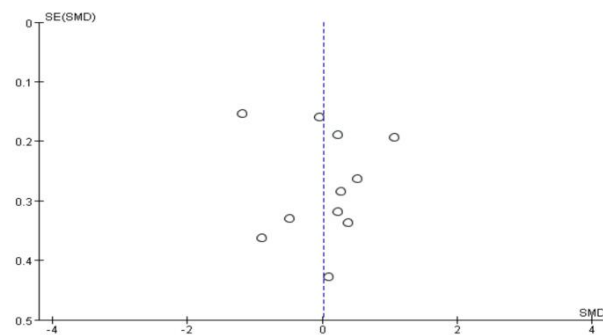
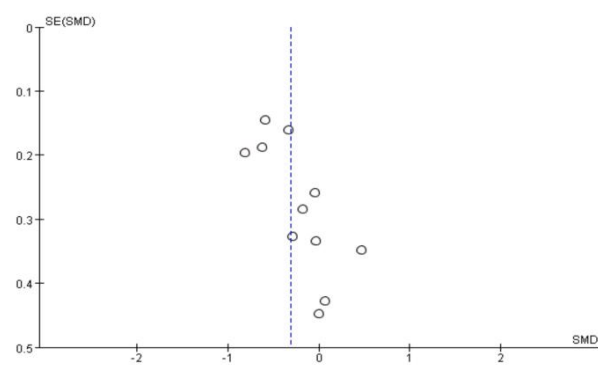


Figure 6 Impedance at baseline and follow-up. Forest plot and pooled analysis of impedance at baseline versus follow-up in the included patients. There are remarkable cut down in impedance at follow-up.

A.Capture threshold



B.R-wave amplitude



C.impedance

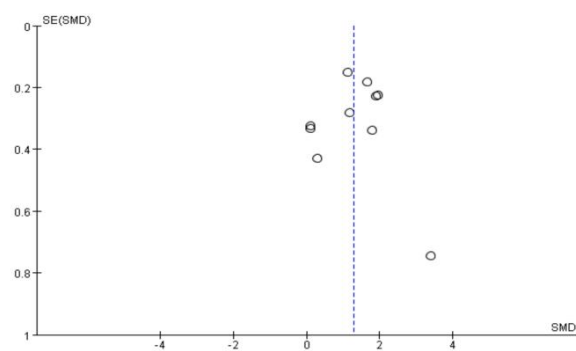


Figure 7 Publication bias analysis was performed on the group with the number of included papers greater than or equal to 10, and produced three sets of funnel plots: A.capture threshold,B.R-wave amplitude,C.impedance plots, which were generally symmetrical.