

pacing leads were individually located at left atrial appendage and left ventricular lateral wall. After all the parameters were detected to be satisfactory, a pouch was made at left abdomen under coastal margin. Dual chamber pacemaker was connected with pacing leads through subcutaneous tunnels. Determine left ventricular diastolic diameters (LVDd) and EF before and after implantation of left heart atrial and ventricular epicardial pacemakers, and also during follow up. To summarise the acute and late parameters and working status for pacemaker and PR interval, QTc of electrocardiogram before and after implantation.

Results (1) Left heart atrial and ventricular epicardial pacemakers were successfully implanted in all of these patients with no complications associated with surgical procedure. (2) EF of two patients with pacemaker syndrome were prominently improved after implantation (18–25% to 40–54%) and LVDd were significantly decreased (52–55 mm to 46–47 mm). EF increased from 47% to 65% 2 days after implantation for the child diagnosed as acute severe myocarditis with heart failure. (3) acute parameters: threshold for left atrium: 2.2 ± 0.6 V, decreasing to 1.05 ± 0.27 V ($p < 0.05$) 1 month after implantation; threshold for left ventricular: 1.3 ± 0.4 V, decreasing to 0.63 ± 0.13 V ($p < 0.05$) 1 month after implantation. (4) QRS interval decreased from 180 ± 33 ms to 140 ± 24 ms after implantation ($p < 0.05$); (5) AV interval was set at 90 ms, PR interval 124 ± 4 ms.

Conclusions Implantation of left heart atrial and ventricular epicardial pacemaker should be regarded as first choice for children diagnosed as complete atrioventricular block for whom endocardial pacemaker could not be implanted. It's advantageous for protecting heart function and avoiding pacemaker syndrome with minimal injury.

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LEFT HEART ATRIAL AND VENTRICULAR EPICARDIAL PACING THROUGH A LEFT LATERAL THORACOTOMY TO TREAT PAEDIATRIC COMPLETE ATRIOVENTRICULAR BLOCK

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Objectives To investigate the feasibility, advantages and results of using Left heart atrial and ventricular epicardial pacing to treat paediatric complete atrioventricular block.

Methods Eight children diagnosed as complete atrioventricular block (CAVB) ineffectively treated by drugs received implantation of left heart atrial and ventricular epicardial pacemakers. Temporal or permanent right ventricular pacing were used for all of them before implantation of left heart atrial and ventricular epicardial pacemaker. Pacemaker syndrome appeared in two of them using permanent right ventricular or right atrioventricular pacing, with EF 18–25%. Heart failure appeared in one child diagnosed as acute severe myocarditis, whose EF was 47%, she firstly received temporary right ventricular pacing. Left lateral thoracotomy was performed under general anaesthesia at 4th intercostal space, two