

# Permanent His Bundle Pacing in atrioventricular block patients:A systematic review and meta-analysis

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## Abstract

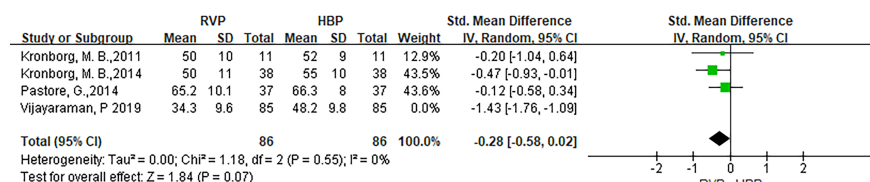
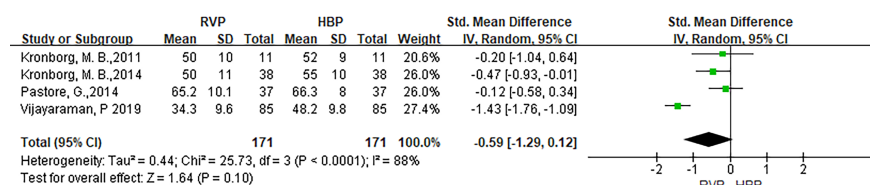
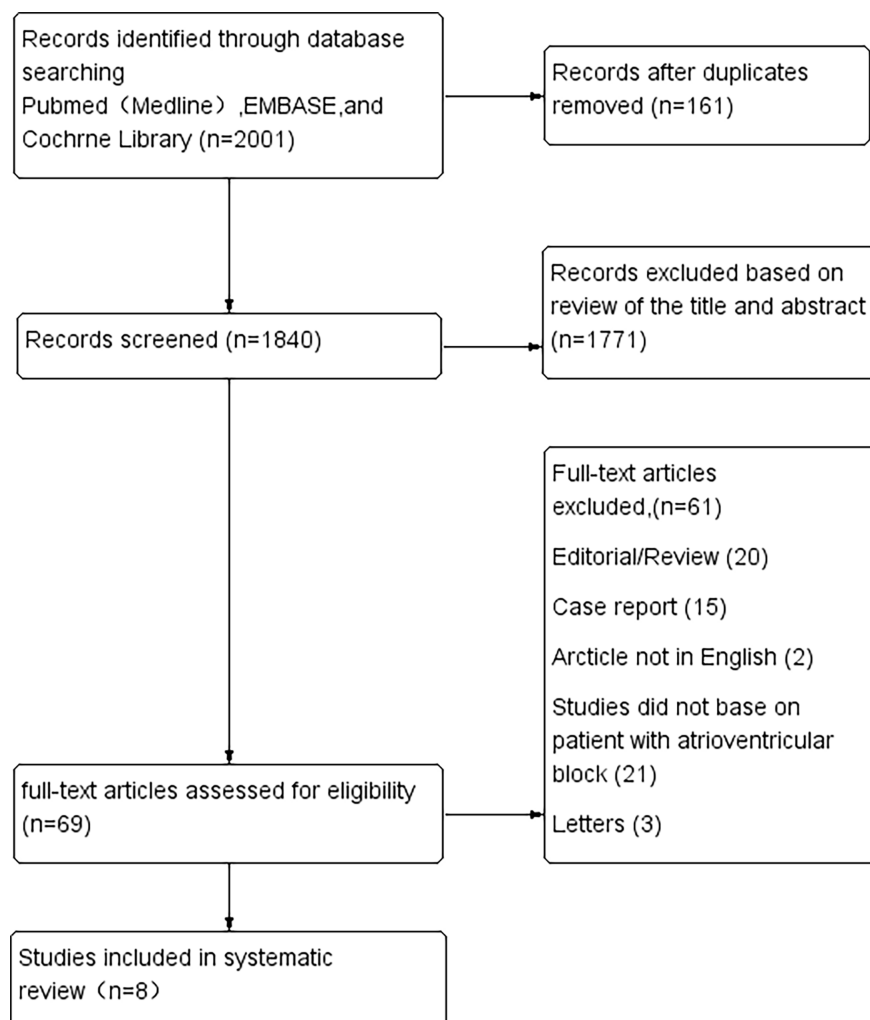
【Abstract】 ?Background:Cardiac pacemakers are still an effective method for the treatment of atrioventricular block diseases(AVB). Ventricular pacing results in adverse clinical outcome. For patients with atrioventricular conduction system disease, minimization ventricular pacing not be used to reduce the proportion of ventricular pacing and improve cardiac function. Recent studies have shown that His bundle pacing(HBP) can be an effective treatment for patients with atrioventricular block . The purpose of this study was to evaluate the effectiveness of His bundle in patients with AVB. ?Methods:We searched the studies from Pubmed,Embase and Cochrane Library database to evaluate the application of HBP in patients with AVB. From these studies, we extrated and summarized the related data such as implantation success rate, QRS width, pacing threshold at baseline and follow-up, assessment left ventricular function, complications. ?Results:This Meta- analysis included eight studies, including 430 patients. The success rate of implantation varied from 65% to 93%. The main indications of HBP were patients with AVB, including patients with atrioventricular node block and intranodal block. Left ventricular function(left ventricular ejection fraction) was not significantly improved during follow-up. The duration of QRS after HBP implantation was more narrow ( $113\pm 18$ ms). Compared with the baseline level, the threshold of HBP was not significantly increased during follow-up. During an average of 12 months of follow-up, pacemaker-related complications occurred in 16 patients. ?Conclusion:Permanent HBP has shown promising results for patients with AVB in small observational studies. Randomized controlled trials are needed to assess the efficacy of HBP in these patients.

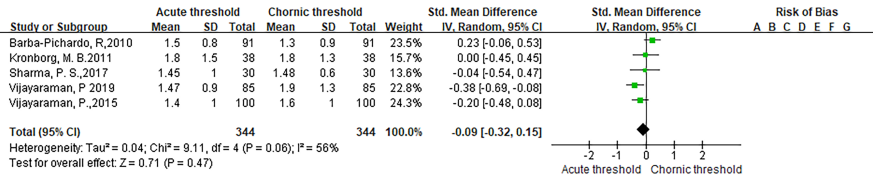
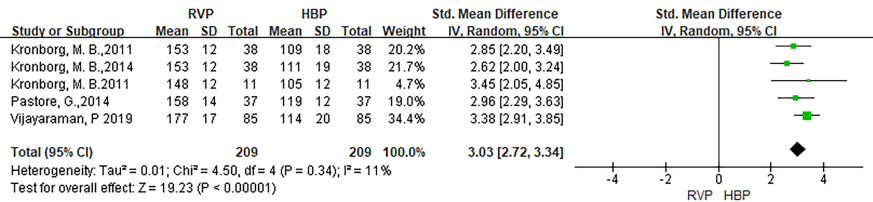
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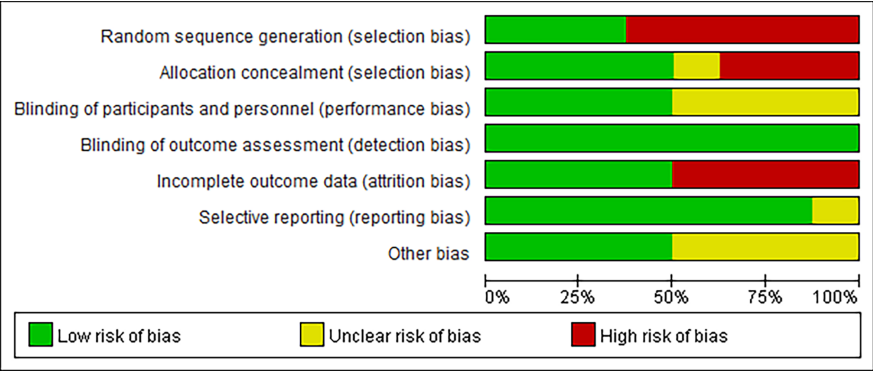
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Table-1.pdf available at <https://authorea.com/users/398384/articles/511016-permanent-his-bundle-pacing-in-atrioventricular-block-patients-a-systematic-review-and-meta-analysis>





**Risk of bias legend**  
(A) Random sequence generation (selection bias)  
(B) Allocation concealment (selection bias)  
(C) Blinding of participants and personnel (performance bias)  
(D) Blinding of outcome assessment (detection bias)  
(E) Incomplete outcome data (attrition bias)  
(F) Selective reporting (reporting bias)  
(G) Other bias



|                        | Random sequence generation (selection bias) | Allocation concealment (selection bias) | Blinding of participants and personnel (performance bias) | Blinding of outcome assessment (detection bias) | Incomplete outcome data (attrition bias) | Selective reporting (reporting bias) | Other bias |
|------------------------|---|---|---|---|--|--------------------------------------|------------|
| Barba-Pichardo, R,2010 | +   | ?                                       | +   | +   | +  | ?                                    | ?          |
| Kronborg, M. B.,2011   | +   | +                                       | +   | +   | +  | +                                    | +          |
| Kronborg, M. B.,2014   | +   | +                                       | +   | +   | +  | +                                    | ?          |
| Kronborg, M. B.2011    | +   | +                                       | +   | +   | +  | +                                    | +          |
| Pastore, G.,2014       | +   | +                                       | ?   | +   | +  | +                                    | ?          |
| Sharma, P. S.,2017     | +   | +                                       | ?   | +   | +  | +                                    | ?          |
| Vijayaraman, P.,2015   | +   | +                                       | ?   | +   | +  | +                                    | +          |
| Vijayaraman, P 2019    | +   | +                                       | ?   | +   | +  | +                                    | +          |