

Sinus Node Dysfunction and Risk of Pacemaker Implantation after Trans Septal Approach to Mitral valve Surgery

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Background:

The transatrial septal approach may enhance exposure of the mitral valve (MV) especially in cases involving small left atria and when additional tricuspid valve repair is required. However, concerns exist regarding high incidence of sinus node dysfunction and subsequent pacemaker implantation probably related to inadvertent division of the sinus node artery.

Methods:

The data of 141 patients undergoing transseptal MV surgery (2006-2012) were reviewed. Extended or bi-atrial approaches were excluded. Sinus node dysfunction was defined as supraventricular non-normal sinus rhythm (NSR) including sinus node exit block, wandering pacemaker and nodal rhythms.

Results:

Distribution of MV pathology was degenerative (42%), rheumatic (26%) and ischemic (20%). Endocarditis accounted for majority of the remaining (12%). Concomitant tricuspid annuloplasty and myocardial revascularization were performed in 40% and 28%, respectively. 14% were redo mitral valve surgeries.

By postoperative day 5, 77% of the patients were in NSR and 21% were in atrial fibrillation. The incidence of subsequent pacemaker implantation was 3.5% (n=5), 1.42% (N=2) for isolated mitral valve surgery. Multivariate analysis was used to identify independent correlates of sinus node dysfunction. The incidence of residual interatrial septal defects was 1.42% (n=2).

Conclusions:

The transseptal MV approach is feasible and reproducible. Sinus node dysfunction is predominantly temporary and does not alter early outcome. The risk of pacemaker implantation compares favorably with the reported in the literature for alternative approaches.