

RECOVERY OF ATRIOVENTRICULAR NODAL FUNCTION AFTER PACEMAKER PLACEMENT FOR HIGH GRADE ATRIOVENTRICULAR BLOCK AFTER VALVE SURGERY

ACC Poster Contributions

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Background: AV node dysfunction is a well known complication of aortic and mitral valve surgery, with a permanent pacemaker (PPM) placement rate as high as 8.5% post-operatively. The persistence of AV block (AVB) after PPM placement in this patient population has not been well evaluated. We sought to determine the proportion of patients undergoing PPM placement for AV dysfunction post aortic or mitral valve surgery who displayed evidence of continued AV node dysfunction at any time greater than 1 week after implantation.

Methods: Device interrogation reports for 80 consecutive patients undergoing PPM placement for high grade 2nd or 3rd degree AVB post aortic or mitral valve surgery (Aortic 55, Mitral 14, Aortic+Mitral 11), with no evidence of AV dysfunction preoperatively, were reviewed. Preoperative and operative variables including aortic crossclamp time, baseline rhythm, and baseline conduction intervals were assessed. Underlying rhythm and pacemaker dependency was assessed at each follow up device interrogation. Patients who displayed high grade 2nd degree or 3rd degree AVB at any point greater than 1 week after implantation were classified as having long-term AVB. Logistic regression utilizing preoperative and operative variables was performed to identify independent predictors of long-term AVB.

Results: 45% of 80 patients had evidence of long-term AVB over a mean follow-up period of 3.8 years. The only independent predictors of long-term AVB were male gender (OR 7.8, 95% CI [1.9, 3.2], $p < 0.004$) and persistent-compared to intermittent-AVB during the post-op period prior to PPM placement (OR 13, 95% CI [3.0, 57], $p < 0.001$). Long-term AVB was present in 5/30 (17%) patients with intermittent post-op AVB compared to 31/50 (62%) patients with persistent post-op AVB.

Conclusions: Only 45% of patients undergoing PPM placement for AV dysfunction after aortic or mitral valve surgery display evidence of continued AV dysfunction during long term follow-up, implicating the transient nature of AV block in some post-operative patients. Patients with intermittent AVB between surgery and PPM implantation had a decreased risk of long-term AVB.