CONTINUOUS RIGHT VENTRICULAR APICAL PACING MIGHT AFFECT ON LEFT VENTRICULAR SYSTOLIC AND DIASTOLIC FUNCTION

Background: Purpose: To elucidate long-term outcome after continuous right ventricular pacing for systolic and diastolic cardiac function.

Methods: Forty patients with advanced or complete atrio-ventricular block who needed permanent pacemaker and their ejection fraction were more than 45% were analyzed. Their cardiac function were evaluated by cardiac echocardiography at pre-implantation, one week after implantation, 12 months and 24 months after pacemaker implantation. Ventricular permanent pacemaker lead were all placed at right ventricular apex. And optimal atrio-ventricular delay were adjusted by echocardiography within 1 week after implantation.

Results: Mean age was 71.7 and percent male was 46.2%. QRS width were changed as followings, 161.4msec(1W), 165.3msec(12M) and 165.9msec(24M). Percent ventricular pacing were 99.4%(1W), 98.1%(12M) and 98.0%(24M). Ejection fraction decreased gradually after pacemaker implantation, 1W-12M(0.605-0.592, P=0.0065), 1W-24M(0.605-0.576, P=0.0017) respectively. Also deceleration time and Tei index were significantly reduced, 1W-12M(261.1msec-247.2msec, P=0.1809), 1W-24M(261.1msec-242.9msec, P=0.0310), 1W-12M(0.652-0.612, P=0.0832), 1W-24M(0.652-0.576, P=0.0071)

Conclusion: Continuous long term right ventricular apical pacing might reduced both systolic and diastolic cardiac function.