Background: Long-term efficacy of right ventricular apex (RVA) pacing has not been well known. Methods and Results: In consecutive 111 patients who implanted new DDD-pacemaker between Jan. 2000 and Dec. 2002, we studied 20 patients (69± years) with sick sinus syndrome (SSS) and 28 patients (65±14 years) with atrioventricular block (AVB) who could be followed until first generator replacement (77±17 months after pacemaker implantation). Follow-up was continued after the generator replacement. All RV leads were implanted at RVA. Cardiac function evaluated by 2-dimensional echocardiography at the generator replacement and clinical event during the follow-up period were compared between both groups. Cumulative percentage of RVA pacing was higher in AVB group than in SSS group (90±27 versus 44±42%, P<0.0001). There were no significant differences between SSS and AVB group about LVEF (53±12 versus 51±11%, P=0.71), left ventricular end-diastolic diameter (48±6 versus 49±12mm, P=0.69), severity of mitral regurgitation (P=0.19), incidence of hospitalization for heart failure (25 versus 14%, P=0.46) and cardiac death (10 versus 4%, P=0.56). Conclusions: In patients with DDD-RVA pacemaker, although cumulative percentage of RVA pacing was higher in AVB group, long-term cardiac function and clinical event were similar in both groups. RVA may be acceptable pacing site in patients with preserved cardiac function for at least several years.

Keyword: pacemaker