
The long-term efficacy of physiologic dual-chamber (DDD) pacing in the treatment of end-stage idiopathic dilated cardiomyopathy was evaluated in a longitudinal study of up to 5 years in 17 patients. The considerable clinical improvement achieved after implantation of a pacemaker programmed for DDD pacing at an atrioventricular delay of 100 ms was maintained throughout the follow-up period or until death and was associated with a consistent decrease in New York Heart Association class and an increase in left ventricular ejection fraction. Cardiothoracic ratio, heart rate and echocardiographic dimensions progressively decreased, and systolic and diastolic blood pressures increased. Median survival time was 22 months. During follow-up, 4 patients received donor hearts, 9 had a sudden death at home without defined cause or after a thromboembolic event, and 1 died from adenocarcinoma. Three patients survived the follow-up. No patient needed rehospitalization owing to a worsening of heart failure after pacemaker implantation. An interruption of pacing in DDD mode for 2 to 4 hours was followed within the first months by a marked decrease in left ventricular ejection fraction and an increase in cardiothoracic ratio and echocardiographic dimensions, but this response consistently decreased during follow-up. The data indicate that DDD pacing can be recommended as a useful tool in the long-term treatment of end-stage idiopathic dilated cardiomyopathy, with progressive improvement in cardiac function and a reduction of the dilatation of the left ventricle.