
Patients enrolled in a clinical heart transplantation program were evaluated to identify the predictors of prognosis in patients with advanced heart disease and to optimize timing of heart transplantation. Three hundred eighty-eight subjects were consecutively evaluated from 1985 through 1989. One hundred eighty-four patients (47.5%) had dilated cardiomyopathy; 164 patients (42.2%) had ischemic heart disease; 34 patients (8.8%) had valvular heart disease, and six patients (1.5%) had miscellaneous disorders. In each patient, 45 different parameters were considered. During follow-up (mean, 8.4 months) 166 patients underwent heart transplantation; 99 patients died (heart failure, 66 patients; sudden death, 26 patients; thromboembolism, two patients; noncardiac causes, five patients). The actuarial survival was 83% at 3 months, 77% at 6 months, 73% at 9 months, 70% at 1 year, and 59% at 2 years. The median survival time was 28 months. Analysis by Cox proportional hazard regression model revealed seven independent and significant prognostic factors: etiology (p < 0.05), NYHA class (p < 0.05), third heart sound (p < 0.05), diastolic pulmonary artery pressure (p < 0.05), pulmonary wedge pressure (p < 0.01), mean systemic blood pressure (p < 0.05), and cardiac output (p < 0.05). Cox’s analysis allows the computation of patient-specific curves for predictions of residual survival time at any moment during follow-up. Moreover it can be used to calculate a simple prognostic index, which enables stratification of the patient population into three risk classes: patients at high (n = 105), intermediate (n = 160) and low (n = 123) risk of early death. Pairwise comparisons of survival between the classes were significant at 1% level.