Prognosis in coronary artery disease

Arteriographic, ventriculographic, and hemodynamic factors

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The influence of angiographic and hemodynamic features on survival was examined in 259 patients with significant coronary artery disease studied between 1964 and 1970. The follow-up period averaged 72 months and varied between 1 and 158 months. These patients had no revascularization surgery. The seven patients with main left coronary disease were excluded, leaving 252 patients for follow-up analysis.

The survival for the entire group at 5 years was 75% and at 10 years 59%. When these patients were considered according to the severity of coronary arteriographic abnormalities, the survival at 5 and 10 years for single-vessel disease was 91% and 71%, double-vessel disease 70% and 59%, and triple-vessel disease 55% and 40%.

The role of ventricular function was also examined in these patients by assessing the influence of heart failure, hemodynamic findings, and left ventriculographic findings on long-term survival. Patients with controlled cardiac failure at the time of the initial study fared poorly with the 5- and 10-year survival being only 34% and 22%. This contrasted with 76% and 64% in patients without cardiac decompensation. The presence of elevated resting left

ventricular end-diastolic pressure (LVEDP > 12 mm Hg) was associated with a 5- and 10-year survival of 52% and 30%; patients with normal LVEDP showed 86% and 78% survival at these times. Patients with normal left ventriculograms had a 5- and 10-year survival of 91% and 74%; abnormal left ventriculograms were associated with a 62% and 49% survival.

The combined influence of the extent of arteriographic severity and ventriculographic findings were considered. Survival curves showed the major influence of left ventricular function on survival, the 5-year survival for single-vessel disease, double-vessel disease, and triple-vessel disease being 97%, 97%, and 66% respectively in the patients with normal ventriculograms and 85%, 58%, and 40% respectively in those with abnormal ventriculograms.

It is concluded that the number of vessels involved and left ventricular function are both major determinants of the prognosis in patients with coronary artery disease.