Correlations between coronary anatomy and clinical syndromes

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The prognosis of patients with coronary artery disease is determined by the number of vessels with significant disease and the state of left ventricular function. If clinical features could be defined that related closely to the extent of vascular abnormalities it might be possible to identify patients with multiple-vessel disease. This would provide useful information regarding prognosis and provide assistance in planning medical or surgical therapy or both.

The clinical syndrome of angina pectoris in itself has been shown to be a poor predictor of arteriographic abnormalities as there is a similar distribution of single-, double-, and triple-vessel disease in patients with various grades of stable exertional angina, and in patients with unstable angina pectoris. The duration of angina may be helpful in that patients who have had angina for one year or less have a higher incidence of single-vessel disease (60%) than do patients who have had angina for 3 years (30%).

The resting electrocardiogram is normal in approximately 20% of patients with triple-vessel disease and thus is of little predictive value. The exercise electrocardiogram is a useful diagnostic aid in identifying patients with multiple-vessel disease, and approximately 65% of patients with ST-seg-

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ment depression of ≥ 1 mm during or after exercise show significant coronary artery disease. The magnitude of ST-segment depression appears to be related to the severity of coronary disease. ST-segment depression of ≥ 2 mm occurs in 65% of patients with triple-vessel disease, but in only 20% of patients with single-vessel disease. A high proportion of patients with involvement in left coronary arteries shows ST-segment depression of ≥ 2 mm, but this does not differentiate these patients from those with multiple-vessel involvement.