

Combined valve replacement or valvulotomy and bypass graft surgery

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From 1969 to June 1977, 87 consecutive patients underwent simultaneous valve replacement or valvulotomy and aortocoronary bypass grafting at the Montreal Heart Institute. There were 64 men and 23 women (average age 56 years). Sixteen patients had no history of chest pains, but had severe functional incapacity. In all patients, significant coronary artery stenosis was demonstrated by cine coronary angiography.

Sixty-eight patients (78%) were considered functional Class II or III, and 62 patients (71%) experienced angina pectoris Class II or III. Aortic valve replacement was performed in 51 patients, mitral valve replacement was performed in 27, and 9 patients had both mitral and aortic valve replacement combined with coronary revascularization. Single aortocoronary bypass was performed in 65% of instances, double bypass was performed in 32%, and 3% had three or more arteries grafted.

To offer a greater margin of safety to these patients, we have used several technical variations with no significant difference in mortality or morbidity. In recent months, however, we have used cardioplegic solutions for myocardial protection in eight patients with no operative

death and no perioperative myocardial infarction. We believe that this method of myocardial protection has much to offer in such combined operations to reduce the operative risk.

The global operative mortality was 18.3%: 15.6% in the aortic replacement group, 14.8% in the mitral replacement group, and 44.4% in the double valve replacement group. However, the late mortality was only 5.7% with an average follow-up of 44 months. The actuarial survival curve after 4 years was approximately 80% in aortic and mitral groups, but only 44.5% in the third group of double valve replacement. Morbidity included a 14% incidence of perioperative myocardial infarction as established by CPK (MB) enzyme elevation and a new Q wave on the electrocar-

diogram.

An analysis of the 16 operative deaths in our series demonstrates that 12 (75%) were caused by cardiogenic shock which can be directly related to inadequate myocardial preservation. In contrast, long-term survival in these patients is gratifying, and it is in great part due to the association of the revascularization procedure to the correction of the valvular defect. However, before recommending the routine association of bypass grafts to valvular surgery in the absence of a specific symptomatology, operative mortality must be drastically reduced.

A better method of myocardial protection such as the one provided by cold cardioplegia can achieve this goal.