The bad left ventricle

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The information currently available concerning the role of left ventricular function on the results of aortocoronary bypass graft surgery is still controversial. The present report attempts to determine, in consecutive groups of patients studied at our institution, whether a depressed preoperative left ventricular function affects the patients' outcome postoperatively and whether changes in ventricular function occurring postoperatively affect the long-term survival.

Our results show that in patients with diffuse wall motion abnormalities involving three to five left ventricular segments, as well as in patients with an ejection fraction less than 35% and in patients with clinical evidence of congestive heart failure preoperatively, the surgical risk is high and may be prohibitive, our surgical mortality being between 11% and 22%. Left ventricular function remains unchanged after surgery. The survival rate 3 to 4 years after surgery is low, between 31% and 68%. The chances of improvement in postoperative survival in this group of patients appear questionable, although only controlled clinical trials will determine whether these results are better than those of medically treated patients.

Patients with subnormal left ventricular func-

tion preoperatively, that is, localized wall motion abnormalities, and an ejection fraction between 35% and 50% appear to have postoperative results somewhat similar to those of patients with normal left ventricular function. The operative mortality is low, approximately 5% in our early results, but it is currently below 3% at our institution. Left ventricular function is improved 1 year after surgery in about one third of patients with complete or optimal surgical correction. Moreover, in the other two thirds of patients in this group with adequate correction, left ventricular function appears to be protected late after surgery. Unfortunately, one third of patients with incomplete revascularization, mainly because of graft obstruction, experience deterioration of left ventricular function postoperatively. The survival rate 3 to 4 years after surgery in this group is excellent, between 85% and 90%. We believe that the main beneficial effect of corrective coronary artery surgery in these patients is the protection of left ventricular function from further deterioration. Only controlled studies will determine the magnitude of this effect and its role on patients' long-term survival.