

Evaluation and surgical management of patients with severe combined coronary artery disease and peripheral vascular atherosclerosis

Paul C. Taylor, M.D.

Cleveland, Ohio

Retrospective analysis of our experience and the results from other centers indicate that development of a myocardial infarction contributes substantially to both early and late mortality in patients undergoing major peripheral vascular surgery. After abdominal aneurysmectomy, hospital mortality ranged from 8% to 10% and the 5- and 10-year attrition rates were from 40% to 72%. In aortofemoral bypass patients, the operative mortality rate was 4% to 5% with a late mortality rate from 31% to 91%. More than 50% of late deaths were cardiac related. These data clearly indicate that a new approach to evaluation and treatment was required.

Beginning in April 1978, all potential candidates for major peripheral vascular surgical procedures underwent selective coronary arteriography (risk 0.03% at The Cleveland Clinic Foundation) regardless of whether coronary atherosclerosis was suspected. Based on the arteriographic findings, the patients were divided into three subsets: those with mild or stable coronary artery disease (CAD), severe but operable CAD, and severe diffuse inoperable CAD. A further division of the first 181 consecutive patients so evaluated into CAD suspected group (68) and unsuspected group (113) revealed that of the suspected group, 28 (41%) had mild or compen-

sated CAD, 25 patients (37%) had severe but operable CAD, and 15 (22%) were inoperable. In the CAD unsuspected group, 87 (77%) had insignificant CAD, but 22 patients (19%) had severe and operable CAD with four (4%) in the diffuse inoperable group. Division of patients who exhibit signs or symptoms of CAD into aneurysm, carotid and aortoiliac subgroups, reveals that the incidence of severe CAD is 95%, 71%, and 84% respectively.

In this initial group of 181 patients, a staged preliminary coronary bypass operation was recommended for 46 of 122 patients requiring a major peripheral vascular procedure. The total hospital mortality rate was 1.2% (2/168) with one death occurring after the cardiac procedure and the other (in a patient with left main trunk equivalent) following successful emergency resection of a ruptured abdominal aortic aneurysm (massive myocardial infarction).

Screening coronary arteriography has

documented a significant association of severe CAD in patients with peripheral vascular atherosclerosis. Based on the early results achieved in this initial group of patients, we are continuing to perform screening coronary arteriography and advise a staged, protective coronary bypass operation whenever possible, if significant operable CAD is identified. In a smaller subset of patients, simultaneous surgical therapy may be indicated especially for those patients who have severe combined coronary arterial and carotid disease.

In summary, routine coronary arteriography is recommended for patients who will undergo peripheral vascular reconstruction especially when CAD is suspected. We anticipate that computerized 5- and 10-year follow-up studies for a total data base group of 400 patients will show a reduction in late mortality from coronary artery-related deaths.