florid signs of cardiac decompensation, generally, evidence of "congestion" has been considered a hallmark and a prerequisite for the diagnosis of heart failure. When first introduced, congestive heart failure was a more accurate term, as patients frequently had persistent signs of fluid retention due to lack of effective therapy, and Southey's tubes were frequently employed to alleviate peripheral edema.

In clinical practice today, signs of congestion are encountered in most patients with heart failure if they have not received therapy or are receiving inadequate doses of medication. The emergence of potent diuretics, vasodilators, and inotropic agents and advances in cardiac surgery have changed the clinical picture and subsequent course of these patients. Although there has not been a uniformly favorable change in prognosis, symptomatic relief is achieved fairly consistently, and patients now frequently die suddenly without overt pulmonary edema. Engler and co-workers in 1982 evaluated 33 patients with heart failure and varying degrees of functional impairment on treadmill exercise testing. All of their patients had documented left ventricular dysfunction at cardiac catheterization and by radionuclide determined measurements of left ventricular ejection fraction. The overwhelming majority of patients in all but the group with the most severely limited functional capacity had none of the clinical signs of congestion. Peripheral edema, jugular venous pressure elevation, and rales were all absent. These observations have been confirmed in our own practice.

There is a general misconception that clinical features of congestion equate with severity of heart disease. Even without congestion, patients with heart failure have exercise intolerance and abnormal ejection fractions and hemodynamics. Lack of appreciation of this concept results in an erroneous impression of the patient's true cardiac status. Congestion should no longer be considered a prerequisite to diagnose heart failure. Chronic heart failure is thus a syndrome, a common pathway of many different pathophysiologic disorders, with "congestion" an infrequent feature with current therapy.

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REFERENCES

3 Osler W. Practice of medicine. New York: D Appleton, 1894:633
4 Hamilton BE. Heart failure of the congestive type caused by hyperthyroidism. JAMA 1924; 83:405-10
12 Killip T. Epidemiology of congestive heart failure. Am J Cardiol 1985; 56:2A-6A
13 Francisca JA, Wilen M, Ziesche S, Cohn JN. Survival in men with severe chronic left ventricular failure due to either coronary artery disease or idiopathic dilated cardiomyopathy. Am J Cardiol 1983; 51:831-36
ment.

The question is no longer whether to revascularize concomitant coronary artery disease, but rather, what valvular surgical procedure to perform (if any), and when. Mitral valve repair procedures can be accomplished with resulting low morbidity and mortality by experienced surgeons. Beyond this, when valve replacement must be carried out, the issue is what type of prosthesis should be used when both the coronary and valvular heart disease require surgical attention. The report by Johnson et al in the current issue of Chest (see page 338) compares their surgical experience with revascularization alone to that with the combined procedure, and attempts to address some of these issues. Utilizing four risk factors which contributed most significantly to operative mortality in over 6,800 coronary bypass procedures since 1972, they stratified their surgical results for 127 patients who underwent combined valve replacement and revascularization into three risk categories (low, medium, high). In low-risk patients (no risk factors present), the combined procedure was associated with an operative mortality (0 percent) comparable to revascularization alone (1.3 percent). However, five-year survival was significantly worse with the combined procedure (82 percent vs 93 percent with revascularization alone). In high-risk patients, there was no significant difference in late mortality between the combined procedure and revascularization alone, although the overall mortality was higher in both groups. This implies that valvular and prosthetic-related factors significantly contributed to late mortality in otherwise low-risk patients. In these patients, the type of surgery performed and the prosthesis selected would appear to be important considerations. In support of this, their data indicated that late survival with bioprostheses was superior to that with mechanical prostheses and was nearly comparable to that achieved with revascularization alone.

However, several qualifying considerations impact upon the conclusions of the study. Firstly, this was a retrospective and non-randomized study. The data to establish the baseline comparability between the combined procedure and the bypass groups, and between the bioprosthesis and mechanical valve groups, were not fully presented and therefore comparability cannot be assured. Secondly, risk criteria derived from patients undergoing bypass surgery may not be appropriate for those undergoing the combined procedure. Other factors may be more relevant in the combined procedure group, such as the etiology of the valvular disease. Thirdly, myocardial protection techniques were not uniform throughout the study population. Fourthly, follow-up extended to only five years. The rate of bioprosthetic degeneration is accelerated after five years, and may total 20-30 percent by ten years.3,5,9

In our own experience with over 650 patients followed for up to eight years after valve replacement with a bioprosthetic (Hancock, Carpentier-Edwards) or bileaflet mechanical (St. Jude) prosthesis, we have found that the rates of survival, freedom from thromboemboli, and freedom from all valve-related complications were identical in the bioprosthetic and St. Jude valve groups. Given all of these considerations, the conclusions of the report by Johnson et al must be regarded as tentative. While many questions remain unanswered, the data do add to an accumulating experience which ultimately should resolve the major issue, that is, what type of valve procedure should be performed.

Reconstructive procedures, especially of the mitral valve, have been increasingly utilized in this country and elsewhere.10-12 These procedures, when technically feasible, may be associated with a superior survival and lower rate of valve related complications (especially thromboembolism) in comparison with valve replacement.13 Rates of reoperation may be comparable to those of bioprosthetic or mechanical valve replacement, at least up to seven years of follow-up.13 There is, however, a significant learning curve associated with successful accomplishment of reconstructive procedures, and, until recently,14,15 intraoperative methods for assessment of regurgitation and the adequacy of the repair procedure have not been entirely satisfactory.16 These issues may be particularly relevant for ischemic mitral regurgitation, which is associated with an exceptionally high (11-28 percent) operative mortality after valve replacement,2,17 as indicated by Johnson et al, and with which the operative mortality may nevertheless be lower after valve repair or revascularization alone.10,17 The consequences of an inadequate or failed repair may be substantial in these patients, who frequently are elderly, have extensive coronary artery disease, have moderate or severe left ventricular dysfunction, and are of advanced NYHA class preoperatively; in these patients, subsequent morbidity and mortality after reoperation is often high.

In patients with combined valvular and coronary artery disease, it is clear that complete characterization should be carried out preoperatively, and appropriate surgical attention must be directed to both lesions. An absolute responsibility of any team caring for such patients involves careful and continuing long-term postoperative evaluation and follow-up. Recording, analyzing, and re-analyzing the data from such experiences should go a long way toward resolving some of the remaining issues defined above. The experience of the surgical team with a variety of approaches (revascularization alone, revascularization along with valve repair or valve replacement) is paramount to the quality of the data to be developed to
resolve the remaining issues.

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REFERENCES