Heart Failure: New Questions and Insights About an Old Foe

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Why devote an issue of a medical journal to aspects of heart failure at this time? Heart failure, after all, has been recognized for centuries, and the literature is replete with articles involving a myriad of issues relating to heart failure.

Contrary to the situation with coronary artery disease, the incidence of heart failure is increasing in this country. In 1970 an estimated 500,000 patients were hospitalized with a diagnosis of heart failure. This figure doubled in the next decade. Each year an additional 400,000 individuals are diagnosed as having heart failure, with an annual mortality rate of 10% to 20% (1).

Many reasons account for this increase. Life expectancy in America has increased for all population groups. This is partly related to improved living standards, but the development of therapeutic modalities, newer and more potent antibiotics, management of certain malignancies, and improvements in the management of cardiovascular disease undoubtedly have contributed. Patients with hypertension, coronary artery disease, cardiomyopathy, and valvular heart disease are managed to a point of chronicity that was previously considered unattainable.

In this edition of the Henry Ford Hospital Medical Journal many important issues relating to the understanding, causes, and newer management modalities of heart failure are discussed. Advances in understanding the pathophysiology of heart failure are summarized (2). These advances have spurred the whole spectrum of clinical and bench cardiovascular research which is currently conducted at a biochemical and subcellular level. The possible role of platelets in the thromboembolic complications of patients with heart failure is also discussed (3).

As our ability to treat heart failure improves, signs of congestion are seen less frequently, even in patients with severe pump dysfunction. Problems associated with this change in the manifestation of myocardial dysfunction are reported by Jafri et al (4). Echocardiography is extremely useful and in many instances complements the clinical evaluation of patients with heart failure. Alam (5) discusses the role of this noninvasive procedure along with the important differential features of the various causes of heart failure.

Garcia and Alam (6) highlight the restrictive cardiomyopathies, particularly amyloid heart disease which is more frequently diagnosed premortem because of the routine availability of echocardiography. The protean manifestations of this condition are also noted. A high index of suspicion is necessary to make the diagnosis, and echocardiography should be considered whenever the presentation of heart failure is somewhat atypical, especially in elderly patients.

Sudden death is an important cause of demise in this patient population. The majority of patients with heart failure still receive digoxin and diuretic therapy. Rosman et al (7) discuss the possibility of electrolyte imbalance, particularly potassium abnormalities, as a contributing factor to sudden death in these individuals.

In the realm of patient management, classic therapeutic interventions such as digitalis still play an important role. With better understanding of the effects of acute and chronic digitalis therapy, a more rational approach for its use is possible (8). Goldstein (9) reviews the apparent paradox of using beta-blockade in selected patients with heart failure and the theory behind such use. A host of inotropic agents have been recently introduced into the therapeutic armamentarium for the management of heart failure. Their mechanism of action, benefits, and disadvantages are presented by Jafri and Bristol (10).

Controversy exists regarding the timing of surgery in the management of patients with valvular disease. Early surgery has been recommended to prevent irreversible left ventricular dysfunction. Lee et al (11) report the results following aortic valve replacement in patients with aortic stenosis or regurgitation. Improvement in ventricular function generally can be expected, although in certain instances improvement may be delayed.

Finally, stemming from advances in renal transplantation and the improved ability to control rejection, cardiac transplantation has advanced from an experimental procedure to that of an important therapeutic option in patients with end-stage heart failure (12).

This edition of the Journal is not intended to be a comprehensive review of all the advances or changes in the pathophysiology, diagnosis, or management of patients with heart failure. Neither is it our intent to supply all the answers. However, we pinpoint several areas of this vast subject where advances have changed prior dogma and also attempt to place some of the issues in perspective. Each new insight or advance often produces further complications and poses more problems. At best we can hope to improve patients’ quality of life and perhaps extend their survival by better understanding the disease process and its management.

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References


