

Contemporary Management of Heart Failure

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Heart Failure is a serious cardiac condition affecting nearly five million Americans. It contributes to more than 285,000 deaths annually, more than AIDS and breast cancer combined. Heart Failure occurs when a weakened heart muscle slowly loses its ability to pump blood through the body resulting in decreased blood flow to the body's organs and tissues. People affected with this condition are susceptible to progressive cardiac pump failure or sudden death.

The prognosis for Heart Failure patients remains poor. Life expectancy for patients with Heart Failure is shorter than that for many types of cancer. Approximately one in three people die within the first year after diagnosis. The overall survival at five years is approximately 50%. Approximately 50% of deaths are due to pump failure. Another 40 to 50% are due to sudden death from abnormal heart rhythms.

Heart Failure can affect people of all ages, but the risk increases with age. The most common conditions that may damage the heart include: heart attacks, high blood pressure, heart valve disorders and birth defects. In the early stages of Heart Failure, there may be no symptoms. As the condition progresses, patients usually develop symptoms related to breathing difficulty, fluid retention, and exercise intolerance.

Contemporary management of Heart Failure encompasses a multifaceted approach: lifestyle modification, drug therapy, and cardiac rhythm support. Lifestyle modifications are directed at eliminating the risk factors to development of progressive pump failure. These include: low salt/cholesterol diet, exercise program, blood pressure treatment and weight reduction.

Optimal drug therapy is aimed towards lessening the burden on the failing heart. This includes the use of medications such as: digoxin, diuretics, angiotensin converting enzyme (ACE) inhibitors and beta-blockers. Digoxin's primary role is to improve the force of cardiac contraction and reduce the heart rate. Diuretics serve to relieve the symptoms due to fluid retention. ACE inhibitors lower blood pressure and affect the body's hormonal system improving cardiac performance. Beta-blockers decrease the effects of adrenaline thereby preventing the progression of Heart Failure.

As Heart Failure progresses, the heart may develop conduction delays and fast lethal rhythms. Conduction delays lead to inefficient contraction of the heart's pumping chambers. By placing a special pacemaker that can resynchronize the timing of heart muscle contractions, using a minor surgical procedure, the heart is able to function more efficiently. The use of cardiac resynchronization pacemakers has been proven to improve quality of life, symptoms of congestion, decrease hospitalizations and improved cardiac function. When this form of pacing therapy is combined with an implantable cardiac defibrillator the patient receives the added protection from succumbing to sudden death related to abnormal heart rhythms. Cardiac resynchronization defibrillators therefore help combat pump failure and sudden death related to progression of Heart Failure.