

THE HEART BEAT



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What is Heart Failure?

On March 28, 1969 our 34th president, Dwight D. Eisenhower died of Heart Failure (HF). Today, many people like Eisenhower, including many of my patients, carry the diagnosis of Heart Failure.

Although we have gained greater understanding of the disease in the past decade, we are still in the process of discovery over the nature of this disease and its applicable treatment. Today, HF is the leading cause of hospitalization in people 65 years and older and a leading cause for frequent visits to a doctor.

The term Heart Failure in itself is self-explanatory to a point that the heart has failed to pump the adequate blood required to supply the body. If the heart weakens and its pump function deteriorates, then the blood and fluids tend to back up in the lungs and can cause the typical symptoms of HF which include shortness of breath, especially while active or lying flat, coughing, and swelling of the legs which can represent a sign of fluid accumulation. Heart failure also has been known as Congestive Heart Failure, or CHF, however, this term is no longer used as many patients may not have any congestion but still have heart failure given the evidence of weak heart.

Many causes of HF are known. Numerous heart attacks weaken the regional walls of the heart and subsequently cause the overall function of the heart to decrease and lead to HF.

Longstanding hypertension, or high blood pressure, is one of the leading causes of HF. Interestingly, in response to elevated blood pressure, the heart initially becomes stronger and bulky to overcome the high pressure that it's facing in order to pump blood through the vasculature.

Eventually however, in response to untreated hypertension, the heart tends to "give up" and becomes, for what I call, "tired" and "worn-out." The heart stretches and dilates to accommodate the burden of high blood pressure. This process or reshaping of the heart, which is called remodeling, is detrimental in that it enlarges and weakens the heart and therefore the symptoms of Heart Failure become evident.

Another common etiology relates to heart valve dysfunction. This involves either the tightening and narrowing or leakiness of the valves, which may lead to ultimate weakness

of the heart and in turn result in heart failure. Excessive and long standing alcohol consumption may also cause the heart to fail and become weak.

Fascinatingly, one of the most reversible cause of heart failure is alcohol induced HF; which by cessation of alcohol consumption the heart in many cases regains its normal function. Further, obesity, combined with sleep apnea, which may also factor in elevated blood pressure, has shown to cause HF.

Some patients present mysterious cases in which the cause of HF cannot be discovered. It has been known that viral infections affect the heart and make it weak. In others, the cause is yet to be discovered.

Another cause of HF, which has been known as "broken heart syndrome," has to do with sudden weakening of the heart from significant stress, whether it is mental or physical.

Typically sad, "heartbreaking," news or the physical stress of a disease, such as severe pneumonia, weakens the heart; and patients with this phenomenon present weakness, fatigue, and shortness of breath. This entity is more common in women than men.

Once the effect of stress factors have diminished and optimal medical therapy has been integrated then many of these patients' heart failure may improve and normal heart function may be restored.

HF is not solely due to weakening of the heart. In fact, many patients may present symptoms of HF and have normal pump function however; in this case the heart is stiff and is unable to relax. At this point, there is an inadequate amount of blood filling the heart, which is required for the heart to pump, and thus leads to fluid accumulation in the lungs. The common cause is usually hypertension, which as you may know can cause both weak heart and stiff heart.

Other causes of HF exist but are uncommon and perhaps beyond the scope of this article. Nevertheless, the basic treatment of heart failure has two main goals – first, to make the patient feel better and improve exercise tolerance; and second, by implementing medical or surgical intervention, to assist the heart to regain, or improve, its function.

In next month's column I will discuss diagnostic work-up and treatment of HF.