



The Heart Institute Newsletter

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Message from the Head of The Heart Institute

To all our friends



Best wishes for
A Happy and Kosher Passover

Dear friends and supporters,

In this approaching holiday season, we reflect on the interesting although difficult year we have been having in light of the global economic problems affecting each and every one of us.

Due to the situation, we at the Hadassah Medical Center have had to significantly tighten our belts, cutting corners on staff and postponing planned projects. Nevertheless, the entire team has shown understanding and all have made personal sacrifices in order to help. However, we refuse to compromise on the quality of care given our patients – which has been and remains the best possible – as well as the level of cutting-edge research so important in keeping our center in its position of the top medical leader in Israel.

I wish to extend to you our deepest appreciation of your continuing interest and support, as well as best wishes for a very happy Passover holiday. I am certain that, with your good will behind us, we will continue to advance and enjoy better times to come. As always, we welcome your comments, questions and contributions to our newsletter. You are also warmly invited to visit us virtually on our website, at http://www.hadassah.org.il/English/Eng_SubNavBar/Departments/Medical+departments/Cardiology .

Shalom and Chag Sameach,
Professor Chaim Lotan

Heart Failure

The Hadassah Heart Failure Center Reaches Out to Jerusalem and Sees Results!

Patients with heart failure frequently do not take the doses of medication that they need, nor do they care for themselves the way they should. The Hadassah Center for Heart Failure and Heart Muscle Diseases has taken on the challenge of providing maximal care and maintaining the optimal quality of life not just for Hadassah patients, but for all the heart failure patients in Jerusalem.

In order to do so, Hadassah has set up satellite heart failure clinics at all 3 of the major health plans in Jerusalem. These clinics are centered around specially trained nurses, who create a tailor-made program for each patient. Each patient is seen by a Hadassah heart-failure cardiologist, who optimizes drug therapy and evaluates patients for more advanced interventions such as biventricular pacemakers and defibrillators. The nurses spend time with each patient, teaching them about fluid and dietary management, and how to monitor themselves for any sign of clinical deterioration. The satellite centers have access to specialized dietitians, physical therapy/rehabilitation programs and social workers, and can provide intravenous medications on a weekly basis to prevent admissions. Each patient receives the attention and the multi-disciplinary care that s/he requires, in a warm and supportive environment.

Recently, we performed a survey at one of the heart failure centers, to assess our effectiveness. 68% of patients reported an improvement in their ability to function in daily life and in their quality of life, and half of those patients reported a very significant improvement. The number of patients who reported that they were appropriately taking their medications more than doubled, as did compliance with diet and salt-restriction. Furthermore, there was a 58% decrease in the number of hospitalizations of patients in the program.

The Hadassah Heart Failure Center has further increased its involvement in the community by sending heart failure specialists to health plan centers, working one-on-one with primary care physicians, and seeing patients together. We hope that soon every heart failure patients in Jerusalem will get optimal care.



Heart Failure:

Advances in the Treatment of Congestive Heart Failure at Hadassah: Cardiac Resynchronization Therapy

Congestive heart failure is a common problem among patients with heart disease. The main pumping chamber of the heart is the left ventricle. Following a heart attack or other insults to the heart, the pumping function decreases. This results in a decrease in the force and amount of circulating blood. The back-up of blood “floods” the lungs and the body’s venous system with blood. This resultant “congestion” is what physicians commonly refer to as congestive heart failure (CHF) or a failing heart.

Physicians are equipped with an arsenal of medications to slow the progression of the failing heart and to prevent further illness from developing. Alas, eventually the heart weakens to a point that it is unable to support the circulation mechanically. The electrical system of the heart degenerates and leaves the patient as high risk for ventricular fibrillation, which leads to sudden cardiac death.

To address both the mechanical and electrical problems of the failing heart, the Electrophysiology team at The Hadassah Heart Institute – led by Dr. Shimon Rosenheck, along with Dr. Alexei Weiss and Dr. Jeffrey Banker – is implementing an exciting new technology, the implantation of cardiac resynchronization defibrillators (or CTR-Ds). Essentially, this device is implanted under the skin like a pacemaker, and attached to leads to three leads that are placed in specific locations in both the right and left sides of the heart. The device stimulates the failing left heart to beat simultaneously with the right side of the heart. This improves the circulation and alleviates the patient’s swelling and shortness of breath. Furthermore, the device is also a defibrillator, and thus is capable of automatically giving the heart an electric shock to treat and convert dangerous heart rhythms, avoiding sudden cardiac death.

This device was developed by Dr. Morton Mower, co-inventor of the automatic implantable cardioverter defibrillator back in the 1970’s, and a long-standing friend of The Hadassah Heart Institute.

The combination heart failure arrhythmia therapy is improving and saving lives at Hadassah. Last month, an 84 year-old retired rabbi from New York underwent CRT-D implantation. Immediately, his breathing and heart function improved. At his follow-up visit he glowingly reported that he can now easily accomplish the morning walk to synagogue that had been unimaginable just a week before.

Dr. Shimon Rosenheck in the EPS lab
with the Concerto CTR-D.



?? Questions and Answers : ??

Cardiac Resynchronization Therapy

Q: Does a heart failure patient who is doing well on medication therapy need a CRT-D device?

A: The suitability of a patient for CRT therapy depends on the type of heart failure and how strong the heart is. With the aid of echocardiography and electrocardiogram measurements, the cardiologist can readily determine whether the device will be appropriate.

Q: Once a CRT-D has been implanted, will the patient be able to stop medication?

A: **Absolutely not!** Studies have shown that medication helps failing hearts and makes them stronger, saving lives. One type of therapy in this case does not preclude the other, and they should be combined.

Q: Can a patient with a pacemaker or defibrillator already implanted be considered a candidate for a CRT-D?

A: Yes indeed. In many cases, the existing electrodes or pacemaker wires can be utilized for the CRT-D, and a trained electrophysiologist can add whatever leads are needed to “upgrade” the existing device.

Q: How will CRT-D implantation affect the lifestyle of a patient?

A: As the device is implanted under the skin, it does not limit daily activities such as showering.

As with other implanted devices (pacemaker or defibrillator), it is recommended to avoid rough physical contact that could involve hard falls or heavy impact with the implant site, which could cause the leads to become detached from the device or otherwise damaged. And as with the other implanted devices, it is important to keep devices which operate by transmitters (such as mobile phones, hand-held messenger units, and Wi-Fi enabled laptops computers) at a safe distance from the implanted device – the transmitter must be at least 6 inches away. Hold the mobile phone to the ear further from the heart, and never carry it in a chest pocket while it is turned on.

Naturally, there will be a short recuperation period after implantation of the device, and the patient’s healthcare staff will advise on care and return to normal activities.

Regarding travel, the device should not impose any limitations beyond those of the patient’s medical condition.

Q: What maintenance is required for a CRT-D device?

A: In addition to regular checkups with the cardiologist, a patient with a CRT-D implanted needs a visit every 3-6 months to the electrophysiologist (cardiologist specializing in heart rhythms) for device follow-up, which includes checking whether the device’s battery needs to be replaced. (Generally, the battery is expected to last approximately 5 years.)

From the clinical research center to the scientific literature

Clinical Outcome of Patients with Heart Failure and Preserved Left Ventricular Function

A prospective study of patients who were hospitalized in The Hadassah Medical Center in Ein Kerem, Jerusalem, with a definite diagnosis of heart failure, was published recently in *The American Journal of Cardiology*.

The clinical syndrome of heart failure with preserved left ventricular function (LVF), also defined as heart failure with a normal ejection fraction, is now recognized as a common condition in patients with heart failure and has emerged as a serious clinical problem. (Ejection fraction: a measure of the contraction capability of the ventricle) Although systolic dysfunction is considered to be the major cause of heart failure, many patients have preserved systolic function. During the past 2 decades there has been a significant increase in the number of patients admitted with heart failure and preserved LVF. Traditionally, the outcome in these patients has been presumed to be better than patients with reduced LVF. However, this assumption is controversial, with some recent studies suggesting that the prognosis in these patients may not be so benign.

Dr. Israel Gotsman and the other physicians of The Hadassah Center for Heart Failure and Heart Muscle Diseases evaluated the clinical outcome of 269 consecutive patients hospitalized in the Internal Medicine Departments with a clinical diagnosis of heart failure, and compared the outcome of patients with preserved and reduced LVF. The patients were divided into these two groups according to echocardiography findings. The patients were followed for at least one year from discharge from the hospital.

The findings challenge the traditional view that patients with normal ejection fraction generally have better outcomes than patients with reduced LVF. The rates of major adverse events, including further hospitalization and death, were not significantly different statistically the two groups. However, patients with preserved LVF had fewer rehospitalizations for any cardiac reason than those with reduced LVF, and also less heart failure exacerbation.

Large randomized trials for the treatment of heart failure have enabled therapeutic guidelines for patients with heart failure. However, the clinical trials and guidelines are applicable only to patients with systolic dysfunction. There are few trials designated for patients with preserved LVF. Therefore, the optimal treatment for patients with preserved LVF has yet to be defined, and this study emphasizes the need to address this issue by studies aimed at developing better treatment modalities for these patients.



Reference: Israel Gotsman, Andre Keren et al. *The American Journal of Medicine* (2008) 121, 997-1001

To All Our Friends and Supporters



*The entire Heart Institute staff
Wishes you a very Happy and Kosher Passover*