Heart booster provides new lease on life
by Stefanie Winkelnkemper - most recent update: Sept 17, 2009, 8:33 a.m.

Dusseldorf (RP): Siegfried Werner was the first patient in the Dusseldorf area to receive a pulse generator implant. Since then, the strength of his heart has increased by 14 percent. Prior to the implantation, the 67-year old patient could only sleep in an armchair because he was barely able to breathe when fully reclined.

When Siegfried Werner unbuttons his shirt, the life-saving device shows under his skin. At the Protestant Hospital ("Evangelisches Krankenhaus"), a team of doctors implanted the oblong device into the right upper region of the patient's chest wall. The implant does not bother the 67-year old man who can now finally sleep peacefully again. "That was no life. I could not have kept going like that", the patient from Dusseldorf says.

For many weeks, Siegfried Werner had to spend each night sleeping in an armchair. "When fully reclined, I could not breathe and became panicky", he explains. The heart specialist Ernst G. Vester at the Protestant Hospital helped him find relief. Ernst G. Vester and the cardiologist Stefan Schlüter suggested an innovative high-tech device which provides what in medical lingo is called CCM (Cardiac Contractility Modulation) – kind of a heart booster.

Other than a pacemaker, the device does not alter the heart rhythm but delivers stimuli below the pacing threshold which increase the heart's contractile strength and thereby its pumping action. "The heart's contractile strength usually keeps declining in patients with heart failure because the respective genes are downregulated", Vester explains. The new pulse generator counteracts these processes and can cause the release of regulating proteins which help the heart's calcium metabolism.

"I can sleep normally again", Werner rejoices. Since he had suffered a heart attack 13 years ago, his heart had become enlarged but was getting increasingly weaker. "Patients with pronounced heart failure will always run the risk of sudden cardiac death", Vester states. In the hospital, Werner first received a defibrillator implant as his electronic guardian angel. If the heart suddenly goes into ventricular fibrillation, the device delivers a shock to the heart. The first such implant in Germany was performed at Dusseldorf University Hospital in 1984.

Recharging the battery while watching a soccer match

Now Siegfried Werner has become the first patient in the Dusseldorf metro area to receive the new pulse generator. "Health insurance providers will pick up the bill if the procedure is indicated", Vester says. The charge is 20,000 EUR. In return, the system is expected to last a lifetime and does not have to be replaced in 6- to 8-year intervals like a pacemaker.

Some maintenance is required, though: Werner has to recharge the battery once a week. For recharging, Werner dons the charging vest connected to the charger. Charging takes two hours. "Just right for watching a soccer match", Werner volunteers.