

Narayana Health City treats acute heart failure through LVAD

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A 37 year old police officer from Oman, Muscat was suffering from chronic heart failure with frequent exacerbations and recurrent hospitalisations since the last 3 years. His search for quality treatment brought him to Narayana Health City, Bangalore. A comprehensive evaluation revealed that his left ventricular function was just 15% (Normal Left ventricular function is 55%). A cardiac catheterisation test was performed and based on the data, he was not a suitable candidate for cardiac transplantation. In view of his clinical condition, he was advised to undergo Left Ventricular Assist Device (LVAD) implantation.

LVAD is a battery-operated, mechanical pump device that is surgically implanted. The LVAD device connects the patient's failing left ventricle to the aorta. It draws out blood for the patient's weakened left ventricle and pumps it into the patient's aorta. An important pre-requisite for implantation of an LVAD is a normal right ventricular function, since the LVAD can support only the failing left ventricle. Patients who suffer from biventricular failure (failure of both left and right ventricles) are not suitable candidates for LVAD implantation and are advised to undergo BiVAD or Total artificial heart (TAH) surgery. This patient's LVAD implantation surgery was successful and was funded by the Royal Oman Government.

Speaking about the case, **Dr. Bagirath Raghuraman, MD, DM (Cardiology), Program Director Heart Transplant at Narayana Health City said**, "Mechanical circulatory support devices have become important options in the management of both acute and chronic heart failure conditions. Its value can be gauged from the fact that it is available off the shelf at short notice and is lifesaving in those patients on life support equipment waiting for a donor heart. Apart from this, LVAD is also an option for heart failure patients who are at the other end of the spectrum who are not suitable for a heart transplant due to very high pulmonary artery pressures, like this patient. We are glad that this patient has responded very well to the LVAD device. His condition has improved dramatically from the time he was admitted and now he can manage his work on his own. We will continue to monitor the patient periodically".

Dr. Julius Punnen, Senior Consultant Cardiothoracic and Transplant Surgeon at Narayana Health City who operated on this patient added "The worldwide prevalence of patients living with chronic heart failure is on a rise. With severe and chronic heart failure, the left ventricle weakens to the point that it can no longer pump enough blood on its own. Then we use LVAD to save these situations. The procedure to implant LVAD is complex and involves risks. However, LVAD can be

lifesaving and can emerge as a ray of hope for many patients. We will monitor the patient periodically. Over a period of time, his pulmonary artery pressures will decrease and he may become suitable for a cardiac transplant”.

Dr. Varun Shetty, Consultant Cardiothoracic and Transplant Surgeon at Narayana Health City who also operated on this patient said *“Since their inception, there have been marked improvements in the design and technology of the LVAD’s making them a reliable therapeutic option for patients with advanced heart failure. The LVAD’s available today are technologically far superior to their predecessors. A decade ago, LVAD’s required to be charged once in 4 hours. However, the LVAD’s available today can work up to 11 hours after a single battery charge” .*

Sharing his experience the patient said, *‘Being a cop is tough and everyone looks up to you for inspiration. When I started having difficulty in managing my day to day work, my life became a living nightmare. Eventually, I could barely complete two sentences without becoming breathless and I needed constant help. Finding the right diagnosis, right doctor and correct treatment option was a tough task and I am grateful that I came to Narayana Health City. Now after LVAD implantation, under the supervision of Dr. Bagirath and Dr. Julius and the entire team, I can independently perform all my daily routine tasks by myself and it has made me even more confident and optimistic towards life. ’*

The biggest advantage of LVAD’s are that they are readily available when required, they do not require immunosuppressive medications or periodic cardiac biopsies and are extremely biocompatible thereby eliminating the risk of rejection. The advent of mechanical circulatory support devices like the LVAD’s have not only made patients’ life easier but also helped them live a happy and fulfilling life. More importantly, they can live independently with dignity and perform most of their daily tasks without depending on others for help.

About Narayana Health City, Bengaluru:

NH Health City is located in Bommasandra, Bengaluru, which comprises of Narayana Institute of Cardiac Sciences (NICS), a superspecialty hospital for cardiology and cardiac surgery, and Mazumdar Shaw Medical Center (MSMC), a multispecialty hospital for cancer care, neurology and neurosurgery, nephrology, urology, and houses what is possibly India’s largest bone marrow transplant units. NH Health City operates a stem cell bank and a homograft valve bank as well.