



THE TIMES OF INDIA

Kolkata man completes a decade with artificial heart

Price Of The Device Falls From ₹1 Cr In 2009 To ₹54 Lakh Now

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Kolkata: For the last one decade, Ballygunge resident Santosh Dugar has been living with an artificial heart, making him one of the longest survivors in the country with a prosthetic device that is implanted into the body of a patient when the biological heart fails.

Diagnosed with end-stage heart failure in 2000, Dugar got the machine - left ventricular assist device (LVAD) - implanted on September 9, 2009, after doctors recommended it in the wake of a series of heart attacks. Before that, he had undergone an unsuccessful stem cell therapy. Dugar is among the 120-odd patients in India using the device. Designed to mimic the functions of a biological heart, this is an alter-



MEDICAL MARVEL: Santosh Dugar with cardiologist PK Hazra

native for patients who need a heart transplant. "A heart transplant surgery was the best option. But back then, it was difficult as transplants were rarely done. There was no certainty as to when and whether I would get the organ," said Dugar.

Dugar had suffered his first heart attack in 2000. He underwent an angioplasty which worked for some time.

But then his heart's pumping function started failing. He travelled to AIIMS Delhi for a stem cell therapy, but it did not work for long. Interventional cardiologist PK Hazra suggested the device after he was diagnosed with 'end-stage heart failure'.

"Even as I had complete faith on Hazra, I was worried since I didn't know much about the implant. So, I did a lot of research myself to find out how it worked and to gauge if I could live with it," recounted Dugar.

Called HeartMate II, the mechanical heart is designed to take over the pumping function of the weakened heart's left ventricle which is responsible for infusing oxygenated blood from the lungs to the rest of the body. It is implanted alongside the patient's biological heart, below the diaphragm. It is then

attached to the aorta, the main artery that supplies blood to the body, leaving natural circulation in place while providing all of the energy necessary to propel blood throughout the body.

A power cable via the belly button connects the device to an external portable system — a controller and batteries. All Dugar needs to do is carry a bag containing the controller and the battery and ensure that he charges the latter on time to keep the device pumping.

Imported from the US, the device cost around Rs 1 crore a decade ago. But the price has now come down to Rs 54 lakh, with patients using newer versions. Dugar says the device is worth the money he spent on it. "I am leading a perfectly normal life, thanks to this device. Without it, I may not have survived," he said.

Why Heart Failure Is Not The End Of The World

Modern medicine can take care of patients with heart failure, but if the disease, which affects over 8 million Indians, is not diagnosed early it can be a killer

TIMES NEWS NETWORK

One of the challenges in treating heart failure in India is delayed diagnosis. Most patients come for treatment when the disease is at an advanced stage.

Cardiologists say regular screenings for people with pre-existing heart diseases, history of heart attacks, hypertension and diabetes can help identify cases at an early stage and reduce mortality.

According to Dr Sandeep Seth, professor of cardiology at AIIMS, 50% of those diagnosed with heart failure at late stages die within a year. "Patients often don't adhere to the drug regimen and lifestyle changes needed to halt the progression of the disease. This leads to high mortality," he said.

AIIMS runs a heart failure clinic. Here, doctors have appointed heart failure nurses who are trained to counsel the family members of patients suffering from the disease on the importance of taking medicines on time, drinking less fluid, limiting salt consumption and exercising regularly.

Dr Aparna Jaswal, senior cardiologist at Fortis Escorts Heart Institute (FEHI), said heart failure is not the end of life. "Most patients who are diagnosed with heart failure live a normal life with medications," Jaswal said.

"These days, we also have high-end equipment such as the Left Ventricular Assist Device (LVAD), a machine that mimics the heart's functions. It can be used as a bridge to transplant — the most definite treatment for end-stage

WHAT IS HEART FAILURE?

It is a chronic, progressive condition in which the heart muscle is unable to pump enough blood to meet the body's need for blood and oxygen

At first the heart tries to make up for this mainly by:

Enlarging | The heart stretches to contract more strongly and keep up with the demand to pump more blood. Over time, this causes the heart to become enlarged

Developing more muscle mass | The increase in muscle mass occurs because the contracting cells of the heart get bigger. This lets the heart pump more strongly, at least initially

Pumping faster | This helps increase the heart's output

These temporary measures mask the problem but they don't solve it. Eventually the heart and body just can't keep up, and the person experiences fatigue, breathing problems or other symptoms of heart failure



Who develops heart failure and why?

Those with pre-existing heart diseases, high blood pressure and history of heart attacks

DISEASE BURDEN:

Approximately 8-10 million people in India suffer from heart failure

Prevalence is 10% in urban areas and 4-5% in rural areas

heart disease," said Dr K K Talwar, chairman of cardiology, at the Max Super Specialty Hospital. He added that Indian patients end up with heart failure at

HERE registry of the US.

"The etiology of heart failure in India is also different from that in the West. Though Ischaemic Heart Disease (IHD) is the

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a younger age compared to those in western countries, such as the US.

A study published by cardiologist Dr Sandeep Mishra in the Indian Heart Journal cites three reports — the THFR, Medanta Registry and INTER-CHF (Indian subset) — to show that the mean age of patients with heart failure in India was 61.2, 58.9 and 56 years respectively as compared to 72.4 years in the AD-

most common etiology both in the US and India, Rheumatic Heart Disease (RHD) is also a major contributor in India but not in the US," Dr Mishra has written. The cardiologists say timely detection and treatment of causative factors such as IHD, RHD and hypertension can help reduce the disease burden significantly.

Sanjay Murdeshwar, the managing director of

In our endeavour to reimagine ways of improving and extending the lives of patients, we have collaborated with The Times of India to educate people about symptoms of heart failure and enable early diagnosis of the disease, says Sanjay Murdeshwar, the managing director of Novartis in India

Novartis in India, said heart failure is a potentially life-threatening and a progressive chronic disease, affecting about 26 million people worldwide with 8-10 million estimated heart failure patients in India alone. "Despite it claiming more lives than cancer, being the largest contributor to hospitalisations in the world and death in old age, the awareness about the disease is abysmal. In our endeavour to reimagine ways of improving and extending the lives of patients, we have collaborated with The Times of India to educate people about symptoms of heart failure and enable early diagnosis of the disease. Around 60% of heart failure patients go undiagnosed or misdiagnosed. We strongly believe that timely treatment of heart failure will help patients stay out of hospitals, live longer and lead better lives."

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