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Ever since he suffered a severe heart attack in 2009, Ramprasad Garg, 63, had lived with a steadily weakening heart. For the first few years, it didn't trouble him too much, although he got tired rather easily and occasionally felt a little short of breath. But by 2015, his heart problems became crippling; and he was able to devote less and less attention to his flourishing business. Fortunately, his son, Atul, was already well equipped to share his responsibilities. In just a few more months, Garg told his doctors that he could no longer digest his meals properly (his abdomen would bloat soon after he had anything to eat), and he would become breathless, even when lying down in bed!

Not too many people are aware, but there is a direct and intimate connection between the functioning of the human heart and lungs. If the heart does not pump an adequate amount of blood into the system, there is a collection of body fluids in various parts of the body, including the lungs. As fluids begin collecting in the lungs, space available for breathing and intake of oxygen is reduced steadily. It's a bit like drowning in the fluids of your own body! While such patients often keep oxygen masks on, and oxygen cylinders ready at hand, they get very little relief unless the pumping action of the heart is boosted up.

So Garg first consulted doctors at a couple of hospitals in Delhi, which have a widespread reputation in the treatment of various heart conditions. At neither hospital did he get much relief, while his physical condition went from bad to worse. By now, he was almost confined to his bed!

Had he been just a few years younger, Garg could have been a fit case for a heart transplant but the procedure is usually not recommended for patients who have crossed the age of 60. He was thus just past the threshold! In any case, heart transplants are conducted in relatively few medical centres in India, unlike kidney transplants which are a lot more common. The reason: hearts that are suitable for transplant are quite difficult to come by, and the waiting time is often long, but many patients are medically unfit to wait for their turn to come.

Garg too faced the prospect of a lingering and painful death, until we met. For him and his family, it was a sort of revelation, that there was indeed an alternative to a heart transplant. The LVAD (left ventricular assist device) is a tiny battery operated machine that does exactly what its name suggests. Placed in close proximity to the left ventricle (the thick muscular part of the heart which actually pumps blood out into the rest of the body), the device helps it to increase the pumping action. The result is that the diseased and weakened heart is now able to pump out a higher proportion of blood that collects

inside. The entire circulatory system thus gets a huge fillip, and the patient's condition shows a drastic improvement.

Among the commonest brands of LVAD is HeartMate, developed by a US-based company named St Jude's Medical, which Abbott Healthcare acquired sometime last year. The version of HeartMate now available for the past two years or so is [HeartMate 3](#), which is a noticeable improvement over the 2002 model, that is, HeartMate II. This model has been used in more than 26,000 patients all over the world with upwards of 2,000 having survived for 10 years or more. If this figure appears relatively small, it is because many of the patients were shifted to a transplant programme later on.

While HeartMate II was mainly used as a bridge, that is a temporary measure intended to serve till the patient can be given a heart transplant, the HeartMate 3 is suitable for a longer term application, which cardiac physicians describe as DT (destination therapy). This is because HeartMate 3 resolves many of the problems of the earlier model. The LVAD is ideal for patients older than 65 years of age (when a heart transplant is not done), in cases of increased pulmonary pressure or if the patient cannot wait long enough for a transplant.

Garg was fitted with a HeartMate 3 on May 4, 2016, a month after we decided that this was the appropriate course of treatment. At that time, he was the first in India and second in Asia to receive the LVAD implant. He stayed in hospital for some more time for a regime of rehabilitation, during which the medical team made sure he could walk around comfortably and even climb a few steps. The entire Garg family was put through an extensive course of instructions on how to handle the new equipment, and ample care was taken to ensure that they would have no difficulty.

By the time, Garg went home on May 26, just three weeks later, his entire life had gone through a wonderful transformation. Today he is back to his normal life, though he has effectively retired from his business, and spends his days with a more relaxed routine.

"I still get up at 5 am to go for a morning walk, perform my exercise of 108 claps, along with the laughter club. Then I sleep for some more time before breakfast at 10 am. After a couple of hours, I have a light lunch and then go to a nearby park, where I play cards for a few hours with a group of senior citizens. The highlight of my life post the LVAD was that I could even dance at my son's wedding," Garg relates with a touch of pride and satisfaction. It's hard to believe that just about two years ago, he was so sick that he could not breathe comfortably even while lying down in bed!