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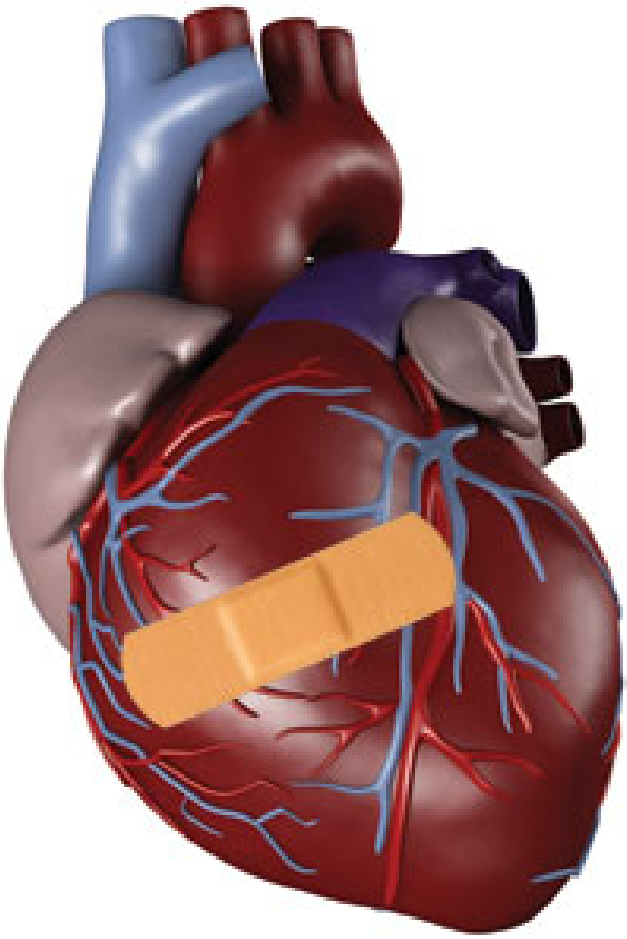

Singapore: Scientists have discovered that the heart's own stem cells can be used to repair damaged parts of the heart. A study conducted at the Cedars-Sinai Heart Institute show that the stem cells help the heart to re-grow healthy muscle following a heart attack. The clinical trial was found to halve the size of scar left on a patient's heart muscle and led to a substantial increase in healthy heart muscle. Researchers highlighted that this discovery challenges the belief that - scarring is permanent and that healthy heart muscle cannot be restored following damage.

A year after receiving the experimental treatment, the scar size in patients witnessed a decline from 24 percent to 12 percent of the heart. Patients who did not receive the heart stem cells had no reduction. The study, which was published online in The Lancet, offers hope for patients with heart failure.

Dr Eduardo Marbn, director, Cedars-Sinai Heart Institute, said that: "While the primary goal of our study was to verify safety,

we also looked for evidence that the treatment might dissolve scar and re-grow lost heart muscle. The effects are substantial, and surprisingly larger in humans than they were in animal tests."

Dr Shlomo Melmed, dean, Cedars-Sinai medical faculty, said that the treatment could mark a new era in heart medicine. "This study shows there is a regenerative therapy that may actually reverse the damage caused by a heart attack," he said.

As an initial part of the trial in 2009, Dr Marbn and his team completed the world's first procedure in which a patient's own heart tissue was used to grow specialized heart stem cells. These cells were then injected back into their hearts. All the patients monitored, with an average age of 53, had survived heart attacks. There were eight serving as controls, receiving conventional care including prescription medicine, exercise recommendations and dietary advice. The other 17 allocated to receive the stem cells had a minimally invasive biopsy, under local anaesthesia.