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Singapore develops promising stem cell-based regenerative therapy for heart disease

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These stem cells have been shown to repair diseased cells, offering a potential cure for heart failure patients

A stem cell therapy treatment developed by researchers at Duke-NUS Medical School in Singapore, for heart failure has shown promising results in preclinical trials. These cells, when transplanted into an injured heart, are able to repair damaged tissue and improve heart function, according to their study.

The new procedure developed by Duke-NUS researchers involves transplanting non-beating heart cells into the damaged heart. After the transplantation, the cells expanded and acquired the rhythm of the rest of the heart. With this procedure, the incidence of arrhythmia was cut by half. Even when the condition was detected, most episodes were temporary and self-resolved in around 30 days. In addition, the transplanted cells did not trigger tumour formation, another common concern when it comes to stem cell therapies.

Prof Tryggvason, who is also the Tanoto Foundation Professor in Diabetes Research, is leading other studies to adapt this regenerative medicine method for patients with diabetes, macular degeneration in the eyes and those needing skin grafts.

The technology has been licensed to a Swedish biotech startup earlier this year to further promote the development of cell-based regenerative cardiology.