



KAMARAJ IAS ACADEMY
Only IAS Academy by Grandson of "Per.uthalayar Kamarajar"

Japan Approves World's First iPS Stem-Cell Therapies for Parkinson's and Heart Failure

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What is the Announcement?

Japan has approved ground-breaking stem-cell therapies for treating Parkinson's disease and severe heart failure, making them the world's first commercially approved medical treatments using iPS cells.

Parkinson's Treatment – Amchepry:

Pharmaceutical company Sumitomo Pharma received approval to manufacture and sell Amchepry, a therapy that:

Transplants stem cells into a patient's brain

Helps replace dopamine-producing neurons lost in Parkinson's disease.

The treatment uses induced pluripotent stem (iPS) cells derived from healthy donors.

Heart Failure Treatment – ReHeart:

Japan's health ministry also approved ReHeart, developed by medical startup Cuorrips.

ReHeart works by:

Using heart muscle cell sheets

Helping form new blood vessels

Improving heart function in severe heart failure patients.

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What are iPS Cells?

Induced Pluripotent Stem (iPS) cells are created by reprogramming mature adult cells back into a stem-cell state.

These cells can:

Develop into any type of cell in the human body

Be used for regenerative medicine and disease treatment.

The technology avoids the use of embryos.

Nobel Prize Connection:

Japanese scientist Shinya Yamanaka won the Nobel Prize in Physiology or Medicine in 2012 for discovering iPS cells.

Clinical Trial Findings

A study conducted by Kyoto University showed:

7 Parkinson's patients participated in the trial

Each received 5–10 million stem cells implanted in the brain

Patients were monitored for two years

No major side effects were observed

4 patients showed improvement in symptoms.

Conditional Approval System:

Japan granted “conditional and time-limited approval”, meaning:

The treatment can reach patients faster

Data from smaller clinical trials can be used initially

Further monitoring will continue after approval.