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Japan approves stem cell based trials for heart treatment

May 17, 2018 | News

The trial treatment will be administered to three patients suffering from ischemic cardiomyopathy.



A special health ministry panel gave Osaka University the approval to carry out a study involving the use of induced pluripotent stem (iPS) cells to treat heart failure. This would be the second instance of using iPS-derived cells for disease treatment in Japan, after groundbreaking trials involving retinal cells launched in 2014.

The trial treatment will be administered to three patients suffering from ischemic cardiomyopathy, a serious condition that occurs when narrowed coronary arteries limit the supply of blood to the heart. The plan is to start the trials by the end of next March and spend a year examining the effects and potential safety issues.

The researchers will grow cardio muscle cells created from iPS cells stocked at the Centre for iPS Cell Research and Application at Kyoto University, where Nobel laureate Shinya Yamanaka serves as director. The created cells, in the form of 0.1 millimeter-thick sheets, will be layered onto the surface of the patient's heart. As the sheets secrete protein, the nutrition is expected to help grow blood vessels and improve heart functions.