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New type of stem cells coaxed into heart tissue

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WASHINGTON (Reuters) - A new type of powerful stem cell made from ordinary skin cells has been coaxed into becoming three different types of heart and blood cells in mice, U.S. researchers reported on Wednesday.

They said they had made heart and blood cells from so-called induced pluripotent stem cells, or iPS cells -- which are transformed skin cells that mimic the powers of embryonic stem cells.

They said their finding, published in the journal *Stem Cells Express*, brings one step closer the possibility of using the cells to treat heart disease in humans.

Dr. W. Robb MacLellan of the University of California Los Angeles and colleagues got their mouse iPS cells to differentiate, or mature, into cardiomyocytes, which are cardiac muscle cells that contract with the beating heart; vascular smooth muscle cells, the specialized muscle cells lining the blood vessel walls; and hematopoietic or blood-forming cells.

"Thus, iPS cells could prove a valuable cell source for applications in regenerative medicine," they wrote in their report.

Last week a different team reported a similar experiment using human embryonic stem cells.

Embryonic stem cells are considered the most powerful kinds of stem cells, as they have the potential to give rise to any type of tissue. But they are difficult to make, requiring the use of an embryo or cloning technology.

Many people also object to their use, and several countries, including the United States, limit funding for such experiments.

But in the past year several teams of scientists have reported finding a handful of genes that can transform everyday skin cells into iPS cells, which in turn look and act like embryonic stem cells.

(Reporting by Maggie Fox; Editing by Will Dunham and Xavier Briand)

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