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Description

In July of 2009, scientists in China report cloning three generations of mice using skin instead of embryonic cells, a stem cell research advance hailed by bioethicists and doctors treating spinal cord injuries and Parkinson's.

Keywords

Stem Cell, Embryonic Stem Cell, Cell, Skin Cell, IPS Stem Cell, Clone, Cloning, Mice, Mouse, Generations, Tissue, Organ, Blood Cell, Brain Cell, Regrow, Grow, Parkinson's Disease, Spinal Cord Injury, Medical Application, Bioethics, Ethics, Egg Donor, Findings, Preliminary, Nature Journal, University of Pennsylvania, Children's Hospital, Boston, "Tiny", Offspring, Healthy, Identical, China, Biology

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Mice Cloned in China Using Skin Cells; Alternative Way to Grow Human Cells, Tissue

BRIAN WILLIAMS, anchor:
And, Tom, the other story out today had to do with cloning. Of course, questions immediately arise. What could it possibly have to do with humans?

TOM COSTELLO reporting:
Yeah, this is a big story because if they can clone a mouse by using skin cells, which is what they've done in China, they might one day be able to use human skin cells to grow human tissue without destroying an embryo.

His name is Tiny, and what makes this Chinese mouse and 26 others unique is that researchers cloned him—not from embryonic stem cells, but from another mouse's skin cells. They're called iPS stem cells.

And if it works in humans, it could mean scientists would have an alternative to using human embryos to grow cells. In Boston, stem cell transplant expert Dr. George Daley calls it a major breakthrough.

Dr. GEORGE DALEY (Children's Hospital Boston): And the real promise is that we could make any tissue that patient might need. Yes, it could be blood cells; it could be brain cells.

COSTELLO: That could mean using a patient's own cells to grow new human organ tissue damaged by Parkinson's disease, even spinal cord injuries, all the whole bypassing the ethical dilemma of using human embryonic stem cells. The research conducted by two Chinese scientists appears in today's journal Nature.

Ms. NATALIE DEWITT: (Nature Senior Editor) There's no embryo destruction. There's no requirement for human egg donors to be involved.

COSTELLO: And that, say bioethicists, is critical.

Professor ARTHUR CAPLAN (University of Pennsylvania): For many Americans, embryo destruction has always been the stopping point when it comes to stem cell research.

COSTELLO: Experts say cloning an entire human is highly unlikely, that the real value is in using a
patient's own cells to regrow damaged tissue and organs.

Dr. DALEY: Most scientists want to use these cells for legitimate medical applications, not for the worrisome human cloning that I think will generate a lot of debate.

COSTELLO: Experts caution the science is very preliminary and insist they still need to use embryonic stem cells to advance the research.

Meanwhile, back in China, Tiny has already produced offspring, second and third generations, all apparently healthy and identical. This is likely to lead to new calls to ban any attempt to clone humans. It is a brave new world of bioethics. Brian:

WILLIAMS: That's right. Here we go. Tom Costello in our Washington newsroom tonight. Tom, thanks.