



Australia Debates Ending Ban on Cloning Human Embryos (Update1)

By Gemma Daley

Nov. 30 (Bloomberg) -- Scientists will be allowed to create human embryo clones for medical research if the Australian government passes new laws, being debated today, to lift a four- year ban.

The Australian lower house is debating a proposal to legalize the creation of human embryos through so-called somatic cell nuclear transfer to aid research into diseases including Parkinson's and multiple sclerosis. The debate is expected to take four days, double the time the House of Representatives discussed the annual budget and Telstra Corp.'s privatization.

If approved, scientists could create embryos with the DNA of a person from stem cells using the same therapeutic cloning technology that produced Dolly the sheep and 10 other animals. Stem cells extracted from such an embryo would be genetically identical to the person donating the DNA, as would tissue such as neurons grown from its stem cells. The research is controversial because it could, in theory, lead to human clones.

"We have to allow people to look to science for answers to cure debilitating and fatal diseases," Labor lawmaker Simon Crean told parliament today. "We have to bring an open mind and honest heart to the debate."

Lawmakers and interest groups are also divided on the ethics of creating embryos for research and then destroying them after their stem cells have been extracted. President George W. Bush restricted research funding on human embryonic stem cells in 2001, saying he was against the destruction of embryos.

'Sanctity of Life'

"Permitting human embryos for scientific research paves the way for society that disregards life itself," said Brian Houston, President of the Assemblies of God in Australia, said in an interview from Sydney today. "The pursuit of science should never override the sanctity of life."

Australia allows medical research on spare embryos from assisted reproductive technology, such as in-vitro fertilization (IVF). Australia has held five inquiries into medical research on embryonic cells since 1998. The latest, the Lockhart Review, was released on June 23.

Under existing laws, scientists can apply for a license to use leftover IVF embryos for research. The scientist must have the permission of the woman who created the embryo. Scientists can also use adult stem cells. As at March 31, 170 excess embryos were used in licensed research in Australia.

Laws prohibit implanting a created embryo clone in a human or animal, importing or exporting a human clone, creating a human embryo by fertilization of a human egg and sperm for anything other than assisted pregnancy, and developing a human or hybrid embryo outside of the woman for more than 14 days.

New Ground

Somatic cell nuclear transfer has been accomplished in numerous animals but not so far in humans. Scientists take a piece of skin from a patient, isolate a cell and remove its nucleus. They then insert that nucleus into an egg cell whose original nucleus has been removed. Under proposed changes, the technique could produce an embryo that is an exact genetic match of the patient and stem cells could be harvested and replicated.

"This will bring us in line with the U.S., Britain, Switzerland, Sweden and Korea," Liberal Senator Kay Patterson, the author of the proposed laws, said in an interview in Canberra today. "The companies from here and overseas will have to adhere to strict guidelines to carry the research out."

People who break the rules could be jailed for as long as 15 years.

Scientists will have to apply for a license through the Canberra-based National Health and Medical Research Council. The companies may be based elsewhere, but the research must be conducted in Australia and adhere to strict guidelines. About A\$40 million (\$31 million) of Council funding was committed to stem cell

research in 2006.

Human Farm?

``These laws will lead to the cloning and farming of human life," Nationals party Senator and Catholic Barnaby Joyce, a father of four, said in an interview in Canberra yesterday. ``What this will lead to is developing a pre-born child to three months, taking it out of the womb because it has a perfectly cloned liver, pancreas or cornea and using that to help someone."

Scientists, including the Australian Stem Cell Center, have lobbied the Australian government to relax the rules around stem cell research and the use of spare human embryos left over from IVF and other assisted reproductive procedures. The existing laws came into effect in 2002.

``I would never forgive myself if I voted against this bill and did not give medical research that extra opportunity to succeed in finding care for some of those terrible diseases which are now incurable," Liberal Senator Alan Ferguson said in an interview in Canberra yesterday. Ferguson's daughter was diagnosed with multiple sclerosis 13 years ago.

Advanced Cell, Geron

California's Advanced Cell Technology Inc. and Geron Corp. are the only two publicly traded U.S. companies working to develop medical advances based on human embryonic stem cells, the cells most capable of turning into other types of cells, such as for skin or blood.

Other companies, including Osiris Therapeutics Inc., Genzyme Corp., StemCells Inc., Aastrom Biosciences Inc. and Viacell Inc., are developing treatments using adult stem cells, which are less versatile and less controversial. The enterprises in both camps are all in the research phase and years from having profitable products.

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