The great human embryo debate

YES

says A/Prof

DAVID TURNER

NO

says Bishop

GREG O’KELLY SJ

We must use all ethical methods.

It is important the legislation is passed for legislative, scientific and moral ethical reasons. The legislative reason is simply that the purpose of the legislation is to harmonise the regulation of stem cell research across the nation.

In December 2006, Federal Parliament passed legislation to lift the ban on therapeutic cloning, while maintaining strict guidelines on what is permitted.

It did so on a conscience vote and by a sizeable majority. The people have spoken through their elected representatives and despite vocal and coercive activities of those implacably against research. Without diminishing the autonomy of SA, it is reasonable that appropriate legislation should be passed here where aspects come under the state jurisdiction.

For the scientific reasons why the legislation should be passed: Remember that therapeutic cloning is the process by which a single cell (for example, any skin cell from your body) is used with an ovum (egg) from which the genetic material has been removed and be induced to divide and become an embryo.

If implanted in a woman’s uterus and permitted to go to term the individual would be genetically identical to you. This is “reproductive cloning” and is universally banned. If, on the other hand, the embryo is destroyed after four to seven days then the small number of cells present have the capacity to produce any type of cell in the body - they are called “pluripotent”.

It is widely believed that such pluripotent cells could be used in the treatment of a wide variety of human diseases and disorders where tissue replacement is needed. We know embryonic derived pluripotent cells have this capacity because that is what they do in nature.

In the eyes of some people, recent research has made therapeutic cloning unnecessary.

This research, emanating from Japan, the US and elsewhere, has demonstrated that normal skin cells can be “reprogrammed” to acquire many of the properties of pluripotent stem cells - without going through the intermediate step of creating an embryo. This is truly exciting stuff.

But it is not sufficient to call a halt to therapeutic cloning research. Whereas we know that embryonic derived pluripotent cells can produce any cell in the body we do not know whether this is true of reprogrammed cells.

Furthermore, the reprogramming has been done by introducing key genes into cells using a virus. We do know that in some human gene therapy programs where viral transfer has been done, significant numbers of patients have developed cancer. Some gene therapy programs have been terminated because of this. The new research is exciting and should obviously be pursued - but this should be done in conjunction with therapeutic cloning, not as an alternative to it.

If we are engaged in a battle against time to use pluripotent cells to relieve the suffering of those with diabetes, heart disease, dementia, paraplegia and so on, why battle with one hand tied behind our back?

We need to use all ethical scientific approaches.

The truth is, it is those vocal and implacable opponents of therapeutic cloning who are the ones who are raising their voices again against this legislation.

For many reasons, only some of which I have outlined above, there is no sufficient change in scientific knowledge to suddenly justify a rethink on what the people have already decided is ethical therapeutic cloning research.

We should not be swayed by the promise, only, of this new research.

If, in time, it is shown that reprogramming adult cells is possible and safe for therapeutic purposes - something that is likely to take many years - then therapeutic cloning will be an option that is likely to be more efficient and costly.

A ban on it will be neither appropriate nor necessary. And the advent of adult-derived pluripotent cell therapy will have been brought forward years by the knowledge gained from therapeutic cloning research occurring in parallel.

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It is of considerable interest to note members of the South Australian Parliament may well be the first among Western legislators to debate human cloning so close to the breakthroughs in the US and Japan.

Scientists in those two countries have created stem cells with all the necessary capabilities for application for health improvement directly from skin cells.

In other words, there is no need for embryo destruction.

This changes the whole context of the debate, because these discoveries remove the need to create human embryos knowing they are to be destroyed. The breakthrough has been compared to the discovery by the Wright brothers of how human beings might fly.

It takes us into new worlds. Little wonder that Professor Ian Wilmut, creator of Dolly the cloned sheep, and Professor Alan Trounson, Australia’s pre-eminent stem cell scientist, have both declared they have abandoned destructive embryonic re search, deeming it no longer necessary.

Professor S. Yamanaka, who headed the research at Kyoto University, came to these discoveries because of a ban on embryo research and his ethical aversion to embryo destruction.

The wondrous medical possibility of these discoveries to being able to perhaps help cure human ailments, such as Parkinson’s disease and Alzheimer’s, gives a sense of purpose and excitement to the research even though the clinical applications may still be years away.

We are now able to pursue this research in a way that does not compromise human life.

People of good conscience have been seriously concerned about research involving the destruction of human embryos.

Indeed, Dr James Thomson, of the University of Wisconsin, was involved in the initial experiments in 1998 that took stem cells from human embryos for the first time, resulting in the destruction of the embryo.

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