Excess IVF Embryos Should Be Used for Stem Cell Research

Maude Rowland and Kirstin Matthews, "Excess IVF Embryos Should Be Used as Stem Cell Source," 2010. Copyright © 2010. This article originally appeared on October 7, 2010 in the Baker Institute Blogs, published by the James A. Baker III Institute for Public Policy at Rice University in Houston, Texas (www.bakerinstitute.org). All rights reserved. Reproduced by permission.

"Isn't it worse to discard an embryo than to use the embryo for research and development of treatments for currently incurable diseases?"

Maude Rowland is a graduate intern and Kirstin Matthews a fellow in science and technology policy at the James A. Baker III Institute for Public Policy at Rice University in Houston, Texas. In the following viewpoint, Rowland and Matthews maintain that frozen embryos remaining after the completion of a successful in vitro fertilization (IVF) procedure should be used as a source of stem cells. According to Rowland and Matthews, using excess IVF embryos for research is morally equivalent to their current fate, being thawed and discarded. Given the help that embryonic stem cell research can someday provide to people who are suffering from debilitating diseases, Rowland and Matthews question why there is such controversy over using excess IVF embryos for research.

As you read, consider the following questions:

1. Who won the 2010 Nobel Prize in physiology or medicine for the development of in vitro fertilization (IVF), as cited by the authors?
2. According to Rowland and Matthews, what is the US equivalent of the UK's Medical Research Council?
3. What do the authors say is one of the National Institutes of Health's requirements for the use of human embryonic stem cell lines in federally funded experiments?

This week [October 7, 2010,] the Nobel Prize in physiology [or] medicine was awarded to British scientist Robert Edwards, Ph.D., for the development of in vitro fertilization (IVF). Edwards, along with his colleague Patrick Steptoe, M.D., who died in 1988, perfected this laboratory technique, which allows infertile couples to have children. Since the birth of Louise Brown in 1978 in the United Kingdom, the first baby born as a result of IVF, millions of people have used the procedure to have children.

When IVF was first deemed possible, many in the U.K. feared that it would result in "test tube babies," and the U.K.'s Medical Research Council, the U.K.'s equivalent to the U.S. National Institutes of Health (NIH), refused to fund the research. Now many groups who once opposed IVF—and a majority of the public—generally accept the procedure's use as a treatment for infertility.

IVF's Excess Embryos

IVF involves the removal of eggs from a woman. The eggs are then fertilized with the father's sperm in a laboratory, and implanted back into the mother. During the IVF process several embryos are created, but typically only a few are implanted to avoid a multiple pregnancy
(such as quadruplets), which is extremely dangerous to the mother and babies. The remaining embryos are frozen, and the couple later decides what it wants to do with them. Some of the embryos are used by the couple, some are adopted by other couples and some are donated to science. However, many of the embryos are thawed and discarded, particularly after several years in storage. These discarded embryos do not seem to be as controversial to the public as the human embryonic stem cell lines that could be created from embryos donated to research.

The timing of the Nobel Prize is particularly interesting due to the court case Sherley v. Sibelius, currently being ruled on in U.S. District Court. As discussed in the Aug. 31 [2010] Baker Institute blog post, "Stem cell ruling hurts Texas scientists too," this case is determining if federal funding can be used for human embryonic stem cell research.

Currently, the NIH must approve all human embryonic stem cell lines before they can be used in federally funded experiments. (The NIH does not fund the actual creation of human embryonic stem cell lines.) One of the requirements is that the lines must be created from discarded IVF embryos with proper informed consent. These embryos are already in existence; they were not created for research purposes but for reproductive purposes.

**Puzzling Controversy**

With such wide support for IVF, it is remarkable that there is still such a public outcry in the United States over the use of leftover embryos for scientific research. From a moral standpoint, one can argue that in both cases an embryo is destroyed and the destruction of an embryo is always wrong. But isn't it worse to discard an embryo than to use the embryo for research and development of treatments for currently incurable diseases? Embryonic stem cell research has the potential to bring relief to people suffering from diseases such as Parkinson's disease, muscular dystrophy and diabetes, as well as catastrophic injuries including those to the spinal cord.

It should be unnecessary to create embryos for research purposes with the number of existing IVF embryos not being used. These embryos can provide scientists with human embryonic stem cell lines to develop cures for devastating diseases, as long as research using these lines can be federally funded.

Perhaps in 30 years, we will look back puzzled as to why the use of human embryonic stem cells was so controversial, given the extensive contributions this type of research will have made to therapies for debilitating diseases. And, when the pioneers of stem cell research win a Nobel Prize, the American public will be excited—and appreciative.

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