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It's easy to be misled on stem cell research

Bill Tammeus | Jun. 30, 2010 A small c catholic

The recent announcement [1] that the Pontifical Council for Culture and an international biopharmaceutical company will work together on adult stem-cell [2] research is good -- but not great -- news.

Though this research may lead to life-saving therapies, it's a modest step and does not confront an issue of language, definition and perception that lies at the heart of official Catholic opposition -- from both the Vatican [3] and the U.S. Conference of Catholic Bishops [4] -- to research that uses certain early stem cells, which unfortunately, imprecisely and thus misleadingly are usually called embryonic stem cells.

I've been writing about stem cell research for much of the last decade, so I know that research using adult stem cells has been going on for more than 50 years. By contrast, the first report of early human stem cells produced by somatic cell nuclear transfer (SCNT) was not published until 2004. So it's not surprising that some effective therapies that use adult stem cells exist while many therapies using early SCNT stem cells still are in development.

I also know it's easy to be misled on stem cell research if you don't name and understand things properly.

The problem comes when people adopt the unwavering position that there's no essential difference between a tiny ball of early stem cells produced by SCNT and a fully developed human being. It's right to want to protect human life from its beginning, as the Catholic church does in its teachings.

But as a Protestant not obligated to follow Catholic teaching on this subject I insist that where early stem cells come from -- whether by SCNT or from natural fertilization -- makes a big difference in how I think about the moral choices.

As William B. Neaves [5], CEO of the Stowers Institute of Medical Research [6] in Kansas City, has said, there is a "profound difference between conceiving a new life and culturing an ordinary body cell from an already-living person who was conceived years ago."

Here is an explanation of that "profound difference":

The day after a man's sperm fertilizes a woman's egg, the resulting single-cell zygote divides into two identical cells. A day later, it divides again and forms four cells. By the fifth day there are roughly 100 cells, and a cavity forms inside a ball of cells called an early blastocyst.

If you believe that human life exists when sperm fertilizes an egg, then call the blastocyst human life on its way to producing the eventual 50 trillion cells that make up each human body. And I mostly won't argue with you. But remember that fewer than 50 percent of such blastocysts ever successfully implant themselves in a woman's uterus. So there's also lots of human death in natural human reproduction.

By contrast, the SCNT technique works entirely with genes in a cell of an already living person. In the SCNT

procedure, sperm and egg never meet. And the resultant cells are never meant to be implanted in a uterus to grow into a baby.

Rather, as Neaves has explained, scientists using SCNT substitute the nucleus of an ordinary body cell for the nucleus of a mature egg. The procedure causes the nucleus of that ordinary body cell to multiply into a small cluster of stem cells that can develop into any specialized cell or tissue in the body.

So far the Catholic church stands against this process, even though I think it would be misleading to call the results of SCNT a human being who must be protected. And this opposition leads the church to focus entirely on adult stem cell research, such as that just announced.

But real, post-birth human beings are suffering from Parkinson's, diabetes and many other kinds of ailments. And scientists think research using early SCNT stem cells could lead to therapies to relieve this suffering. I think a clearer understanding of early SCNT stem cells would allow the church to bless this work, too.

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