



“As to diseases ,make a habit of two things —
to help, or at least *do no harm.*”

—Hippocrates, *The Epidemics* —

THE “POLITICAL SCIENCE” OF STEM CELLS LESSON 5: JUVENILE COMMENTS ABOUT DIABETES

Congress may vote soon on whether to divert taxpayer dollars toward stem cell research that requires destroying live human embryos. In the campaign to promote such funding, political hype has often substituted for the scientific facts. This series will help members of Congress distinguish mere politics from science.

POLITICAL:

“Stem cell research offers the greatest potential for curing ... diabetes.”

- Rep. Mark Kirk (R-IL) at a rally for embryonic stem cell research, UPI, May 16, 2005.

SCIENCE:

“Is the use of embryonic stem cells close to being used to provide a supply of islet cells for transplantation into humans?”

“No. The field of embryonic stem cells faces enormous hurdles to overcome before these cells can be used in humans. The two key challenges to overcome are making the stem cells differentiate into specific viable cells consistently, and controlling against unchecked cell division once transplanted. Solid data of stable, functioning islet cells from embryonic stem cells in animals has not been seen.”

- Autoimmune Disease Research Foundation, “Q & A,” at www.cureautoimmunity.org/Q%20&%20A%20v2.htm (accessed May 16, 2005)

Despite years of effort and substantial funding from the Juvenile Diabetes Research Foundation, Harvard researcher Douglas Melton admits that he and others have failed to get embryonic stem cells to create insulin-producing beta cells that can reverse diabetes. “We are convinced we can do it,” he says. “We just don’t know how” (*The Wall Street Journal*, August 12, 2004, p. A1).

Meanwhile, hundreds of patients with juvenile diabetes have benefited from *adult* islet cell transplants from cadavers, with many now able to throw away their insulin needles (Id.). The first successful islet cell transplant from a *living* donor was recently announced (*The Lancet*, published online April 19, 2005). By converting *adult* liver cells into insulin-secreting cells, an Israeli group has shown that diabetic patients may be able to serve as their *own* donors (*Proceedings of the National Academy of Sciences*, published online May 17, 2005). And a new approach using *adult* spleen cells, pioneered by Harvard researchers, has achieved permanent reversal of diabetes in hundreds of animals and been approved by the FDA for human trials (*The N.Y. Times*, November 9, 2004). These avenues now show greater promise for treatments than embryonic stem cells.

For more information to help distinguish politics from science on stem cell research, see our web site at www.stemcellresearch.org.

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