In support of embryonic stem cell research

Robert N. Golden, MD

When a federal judge abruptly stopped the federal government from funding human embryonic stem cell (ES) research a few months ago, many people were stunned. Thousands of patients who view ES research as their only hope for a cure or their best chance for an effective treatment were devastated by this setback.

Countless scientists across our University of Wisconsin (UW)-Madison campus also were deeply disturbed. Embryonic stem cell research began at the School of Medicine and Public Health (SMPH) with Jamie Thomson’s discovery, and we remain a national leader in ES research. Our scientists are studying the therapeutic potential of embryonic stem cells in cardiac, retinal, endocrine, neurologic, and blood diseases. In addition, the insights gained from the study of the fundamental properties of ES cells may lead to the identification of new targets for drug development. This is one of the most exciting and promising areas of medical research today.

The SMPH and UW-Madison have made a major commitment to ES research. Many of our top scientists have dedicated their careers to work in this area. A cadre of bright young scientists have completed their training in ES research and are now poised to apply their skills and energy to some of the most pressing disease areas.

If ES research is forbidden in the United States, these researchers will be forced to go abroad. If ES research is restricted in Wisconsin, most will leave for places like California, where substantially more resources and fewer restrictions (beyond those that may be imposed by the federal government over time) exist. Whether the restrictions are at the state or federal level, they will seriously compromise ES investigators and our investment in their research infrastructure.

To those who argue for the use of the seeming “alternative” of derived stem cells, in my opinion—and the opinion of many experts—this is not the answer. Adult stem cells are not as flexible as ES cells, which can develop into any cell type and replicate indefinitely. And while the new induced pluripotent cell lines are an encouraging addition, they must be rigorously tested against the gold standard—embryonic stem cells—in order to be validated.

Embryonic stem cell research has had an enormous impact on our state’s economy. Several companies focused on stem cell technology have been created in Wisconsin, giving a much needed boost to our struggling economy and serving as a magnet for other high-tech companies. As the Badger State competes in this difficult phase of the business cycle, stem cell enterprises can add an extremely important advantage.

The injunction on federal funding of ES research was lifted, but nagging uncertainty remains. We must strengthen our stake in this important undertaking. If we surrender our leadership role in ES research, we surrender our capacity to develop biotech companies and to recruit and retain the very best stem cell researchers. Most importantly, we limit our capacity to improve the care of our patients suffering from diseases such as Parkinson’s, amyotrophic lateral sclerosis (ALS), blindness, heart failure and diabetes.

If we surrender our leadership role in embryonic stem cell research... we limit our capacity to improve the care of our patients suffering from diseases such as Parkinson's, amyotrophic lateral sclerosis (ALS), blindness, heart failure and diabetes.

Doctor Golden is the Robert Turell Professor in Medical Leadership, Dean of the School of Medicine and Public Health, and Vice Chancellor for Medical Affairs at the University of Wisconsin-Madison.
The mission of the Wisconsin Medical Journal is to provide a vehicle for professional communication and continuing education of Wisconsin physicians.

The Wisconsin Medical Journal (ISSN 1098-1861) is the official publication of the Wisconsin Medical Society and is devoted to the interests of the medical profession and health care in Wisconsin. The managing editor is responsible for overseeing the production, business operation and contents of Wisconsin Medical Journal. The editorial board, chaired by the medical editor, solicits and peer reviews all scientific articles; it does not screen public health, socioeconomic or organizational articles. Although letters to the editor are reviewed by the medical editor, all signed expressions of opinion belong to the author(s) for which neither the Wisconsin Medical Journal nor the Society take responsibility. The Wisconsin Medical Journal is indexed in Index Medicus, Hospital Literature Index and Cambridge Scientific Abstracts.

For reprints of this article, contact the Wisconsin Medical Journal at 866.442.3800 or e-mail wmj@wismed.org.

© 2010 Wisconsin Medical Society