CORRESPONDENCE

Embryonic Stem-Cell Research

TO THE EDITOR: It is disappointing that Daley has changed his position on embryonic stem cells to make a political statement. In his Perspective article (Aug. 12 issue),[1] he makes no mention of the utility of adult stem cells, despite his previous enthusiasm for their use. Earlier this year, Daley coauthored an article[2] in which he and his colleagues state that neurologic stem cells have "a distinct advantage over fetal tissue" because of their greater ability to circumvent the restrictions of the blood–brain barrier and integrate throughout the central nervous system. Also, "a disease of a particular organ system is probably most efficiently treated with stem cells from the organ — for example, for the CNS [central nervous system], a neural stem cell."

A principal argument for the use of embryonic stem cells is their greater plasticity. In this regard, it is interesting that in a 2002 article,[3] Dr. Daley wrote, "The success of nuclear transfer in reprogramming the differentiated state suggests that cellular engineering might indeed confer upon adult somatic cells the pluripotency of embryonic stem cells, and work is proceeding on clever strategies for doing just that."

What happened?

John A. Petros, M.D.

Emory University
Atlanta, GA 30322
jpetros@emory.edu

1. Daley GQ. Missed opportunities in embryonic stem-cell research. N Engl J Med 2004;351:627-8.
2. Snyder EY, Daley GQ, Goodell M. Taking stock and planning for the next decade: realistic prospects for stem cell therapies for the nervous system. J Neurosci Res 2004;76:157-68.
3. Daley GQ. Prospects for stem cell therapeutics: myths and medicines. Curr Opin Genet Dev 2002;12:607-13.

TO THE EDITOR: When stem-cell research begins to yield clinical uses, the United States, once the leading exporter of technology, will become an importer. The result could be third-world status for this country. The current restrictions on stem-cell research in this country are a potential disaster and need to be lifted immediately.

Richard F. Grunt, M.D.

2100 Walnut St.
Philadelphia, PA 19103

TO THE EDITOR: It is disheartening to see that Daley labels ethical considerations "missed opportunities." His line of reasoning distracts readers from the main issues faced by politicians in this national debate: What is the definition of a living human being? Are humans defined at the moment when a unique strand of DNA is created by the fusion of genetic material from a sperm cell and an egg cell? Developmental biologists and researchers alone cannot answer these questions. Thus, to make well-informed national decisions, politicians seek out not only the viewpoints of researchers but also those of philosophers, ethicists, lawyers, religious leaders, and ordinary citizens.

I agree with Daley that there may be an immediate and compelling medical rationale for stem-cell

THIS WEEK'S LETTERS

studies. However, the point that Daley fails to see is that scientific considerations should never trump the ethical considerations of society.

Jurek G. Grabowski, M.P.H.

Johns Hopkins University School of Medicine
Baltimore, MD 21205
ggrabows@jhmi.edu

DR. DALEY REPLIES: Human embryonic stem cells provide unique opportunities for science and medicine, enabling researchers to investigate basic mechanisms of human development and clinicians to formulate cell-based therapies. In my Perspective article, I outline specific scientific directions facilitated by new human embryonic stem-cell lines that the federal government is not supporting, so as to illustrate how current policy is hindering progress in biomedicine.

I find it curious that Dr. Petros suggests that I have changed my position of advocacy of embryonic stem-cell research "to make a political statement," given my "previous enthusiasm" for the use of adult (somatic) stem cells. In numerous public lectures and scientific articles, I have consistently expressed my conviction that fundamental knowledge and lifesaving cell-based therapies will emerge from research into both embryonic and adult stem cells and that neither avenue should be excluded in favor of the other. In my own laboratory, I maintain active research programs on both classes of stem cells.

Dr. Petros is correct in highlighting my hope that one day we will learn to reprogram somatic cells directly by methods that are less cumbersome than nuclear transfer in order to "confer upon adult somatic cells the pluripotency of embryonic stem cells."[1] Though promising, such speculative cellular-engineering research does not obviate the need for expanded access to new human embryonic stem cells. Adult stem cells are not equivalent to embryonic stem cells and cannot satisfy all scientific and medical needs. Dr. Petros chose not to highlight the following statement from the same review he cites: "The biological fact of life that some adult tissues lack stem cells has bolstered the argument that cell replacement for some disorders must tap a source within the embryo, or alternatively from differentiated products of ES [embryonic stem] cell lines."[1]

Dr. Grunt correctly warns us that restrictions on stem-cell research can have a chilling effect on scientific progress and put scientists in the United States — and possibly patients in this country as well — at a disadvantage.

Rather than distracting readers from the ethical debate, as Mr. Grabowski suggests, I attempt in my article to provide legislators, physicians, biomedical scientists, and the public with credible details of the missed scientific opportunities under the current governmental policy, so that all might exercise sound ethical and pragmatic judgment about medical priorities in our pluralistic society.

George Q. Daley, M.D., Ph.D.

Children's Hospital
Boston, MA 02115
george.daley@childrens.harvard.edu

1. Daley GQ. Prospects for stem cell therapeutics: myths and medicines. Curr Opin Genet Dev 2002;12:607-13.

Combat Duty in Iraq and Afghanistan and Mental Health Problems

TO THE EDITOR: Hoge et al. (July 1 issue)[1] assessed mental health problems in members of the U.S. Army and Marine Corps who were involved in combat operations in Iraq and Afghanistan. Additional analyses might further elucidate their interesting findings.

First, a large proportion of the participants were positive for more than one disorder on screening. It is important to learn about the frequency of multiple disorders[2] and whether deployment and combat experiences were independently associated with depression and anxiety.[3] Also, roughly one quarter of the deployed personnel reported alcohol misuse, which has been shown to be associated with combat-related post-traumatic stress disorder in previous research.[4] Untreated affected combatants might use alcohol as self-medication for psychological symptoms.[5] It would be instructive to know whether such a relationship between lack of treatment and alcohol abuse exists in the present study.