Endocrinologists See Hope for Stem Cell Use as Diabetes Cure

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CAMBRIDGE, Mass., Nov. 1 /PRNewswire/ -- A report from a medical panel of academic and community-based endocrinologists and transplant surgeons acknowledged that a recent study supports the use of stem cells as a future cure for type I diabetes. The panel was responding to recently published research where pancreatic insulin-producing islet cells were discovered in mice. The panelists were unanimous in their enthusiasm that this research, conducted jointly at the Universities of Alberta and Toronto, adds more hope to the goal of getting human stem cells to produce insulin, and thus finding a cure for diabetes.

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While most panelists felt that clinical use of pancreatic stem cells as a cure for diabetes was 15-20 years away, they also believed that application of stem cell therapies would likely include spinal cord injuries, Parkinson's disease and dementia. In addition to the current federally imposed restrictions on stem cell research, they also saw cost as a major inhibiting factor, including sterilization, preservation of cells, consistency of product and delivery of cells.

The panelists acknowledged the current ethical concerns surrounding stem cell research, but most felt that the impediments to research put in place by the current administration were unfortunate, and that science preceded ethics on most issues. One panelist said, "I do not have any ethical concerns. Science always moves ahead of the ethical considerations. The main reason for this is that the true potential of stem cells only a handful of people really could foresee (the dreamers). I suspect that stem cells will allow us to learn how to slow aging or to grow body parts. The ethics of who will get the benefits will be controversial." Another echoed, "I think scientific advances and research has to precede (ethics) and should have top priority compared to ethical or political or social issues in treating chronic and disabling diseases. Adult human stem cells should have less controversy compared to embryonic human stem cells in terms of ethical issues." One panelist even added, "If the political hurdle would be removed, I believe there is a lot of pent-up momentum from both scientists and drug companies [for stem cell research]. "Recent research on adult stem cells has found adult stem cells in many more tissues than once thought possible. These findings have led scientists to ask whether adult stem cells could be used for transplants. Adult blood forming stem cells from bone marrow have been used in transplants for 30 years. Certain kinds of adult stem cells seem to have the ability to differentiate into a number of different cell types, given the right conditions. If this differentiation of adult stem cells can be controlled in the laboratory, these cells may become the basis of therapies for many serious common diseases. Since adult stem cells avoid the ethical debate surrounding embryonic stem cells, most scientists on the panel feel more comfortable pursuing this line of research.

The medical panel was comprised of nine physicians from private practice and academic

medical centers from across the country. Their specialties are Endocrinology and Transplant Surgery. MedPanel conducts medical and public health studies regularly as a part of its commitment to encouraging high level medical dialogue, increasing awareness and changing behavior related to significant health issues.

For more information, or a copy of the study, contact john.smith@medpanel.com, or call 617-661-8080 x317.

About MedPanel

MedPanel provides online custom and syndicated medical market intelligence to life sciences companies, and to those investing in that market. MedPanel's powerful proprietary methodology and platform enable pharmaceutical, biotechnology, medical device and diagnostics companies to have greater strategic control over the development and commercialization of products, and lower costs overall. Through unparalleled access to clinicians, medical thought leaders and healthcare professionals, and through its interactive, asynchronous approach to medical panels and surveys, MedPanel is able to deliver to fast, unbiased, cost-effective and actionable data. MedPanel is a global organization based in Cambridge, Massachusetts.

MedPanel, Inc., a Massachusetts-based medical market intelligence company, convenes online medical forums of medical experts for the purposes of exploring critical medical and health-related issues of interest to the general public. MedPanel believes that in addition to the potential clinical value of the dialogue between panelists, these forums also provide the opportunity for the public to recognize physicians' perspectives about selected health and medical issues.

We encourage the media to consider coverage of these studies as a means of increasing public awareness of health issues and risks, as well as encouraging positive changes in health behavior and medical management.

ABOUT THE STEM CELL PANEL

The following panel was designed to explore recent research conducted at the Universities of Alberta and Toronto and published in the journal, Science. Researchers have discovered pancreatic stem cells in mice and expect that transplantation of these pancreatic islet cells may someday free patients of the need for insulin injections. Stem cell research remains a topical and heated issue given the current political environment. The panel reflects this controversy in discussions of clinical issues, as well as ethical, legal and political issues that surround this new research.

SOURCES The following study participants are available to comment on these issues: David E. R. Sutherland, M.D. Professor, Department of Surgery, University of Minnesota Director, Diabetes Institute for Immunology and Transplantation Head, Division of Transplantation, Department of Surgery, University of Minnesota Clarence Foster, M.D. Assistant Professor of Surgery Director of Clinical Research, Division of Transplantation University of Maryland
RECENT STEM CELL RESEARCH NEWS

Researchers at the National Institutes of Health (NIH) have developed a method of "training" animal stem cells to become insulin-producing islets. Their research, published recently in the journal, Science, could lead to advances in islet cell transplantation as a potential cure for type 1 diabetes. Islets are cell clusters found within the pancreas that are responsible for glucagon (alpha cells), insulin (beta cells), and somatostatin (delta cells) production. Destruction of the insulin-producing beta cells results in type 1 diabetes. Just like islets from the pancreas, the cell clusters that the NIH researchers cultured produced insulin when exposed to a glucose solution.

New research at Memorial Sloan-Kettering Cancer Center has discovered that embryonic stem cells may not have to actually grow replacement parts to be useful. Their research suggests that these cells also secrete healing molecules powerful enough to reverse a lethal birth defect in mice. The study was recently reported in the journal, Science. Researchers injected stem cells directly into the embryos of mice destined to develop heart defects so severe that the mice would die in the womb. Half the mice were born with healthy hearts, yet few of the stem cells actually grew into healthy heart tissue. Instead, the researchers found that the stem cells secreted certain molecules that signaled nearby heart cells to make changes, repairing the defects developing in those tissues.

PANEL DESIGN

Panels generally consist of 8-12 physicians or other healthcare and medical professionals, depending on the topic to be discussed. Discussion guides are designed by clinical and statistical staff. Panelists are selected from an active database of approximately 8,000 clinicians and healthcare professionals based on areas of expertise and interest as well as prominence in the field of interest. Identities are concealed while a professionally-

moderated, threaded discussion is conducted to enhance candor and minimize the potentially inhibiting dynamics of live group discussions. Following the study, a transcript of the panel is published; data are analyzed and compiled in a Summary Report. These documents are available upon request.

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