

Stem Cell Research: What It All Means

Over the course of the past months and years, especially in political, scientific, and religious circles, talk has begun of a process which is called stem cell research. It is this process which scientists feel has great potential in providing a future cure for ailments such as Multiple Sclerosis and Parkinson's Disease to name a few. Anyone who has seen actor Michael J. Fox testify in front of a congressional hearing on the issue can start to begin to understand the effects of Parkinson's disease in the form of bodily shaking and tremors. It is the hope with the funding of stem cell research, people like Mr. Fox and the hundreds of thousands of others who fight such ailments will not have to do so. Unfortunately, as is the case with everything else in life, this situation too proves to show a lack of 100% certainty. We as human beings just tend to find ourselves without the luxury of having that. In return, it is left up to instinct and brainpower to guide us towards answers to problems. The purpose of this essay is to give a brief summation of what stem cell research is as well as what it means for the scientific community and what they hope to accomplish. Also the verbal battle it has caused to ensue between entities ranging from a scientific lab to the White House, and going all the way to Rome and the Vatican. It is with this kind of heated verbal exchange that real reform can result. According to the official resource for the National Institute of Health, stem cells and their importance are described as: "Stem cells have two important characteristics that distinguish them from other types of cells. First, they are unspecialized cells that renew themselves for long periods through cell division. The second is that under certain physiologic or experimental conditions, they can be induced to become cells with

special functions such as the beating cells of the heart muscle or the insulin-producing cells of the pancreas,” It goes on to say, “Scientists primarily work with two kinds of stem cells from animals and humans: embryonic stem cells and adult stem cells, which have different functions and characteristics that will be explained in this document. Scientists discovered ways to obtain or derive stem cells from early mouse embryos more than 20 years ago. Many years of detailed study of the biology of mouse stem cells led to the discovery, in 1998, of how to isolate stem cells from human embryos and grow the cells in the laboratory. These are called human embryonic stem cells. The embryos used in these studies were created for infertility purposes through in vitro fertilization procedures and when they were no longer needed for that purpose, they were donated for research with the informed consent of the donor”. Based on the information provided in these quotes, it can strongly be assessed that these stem cells do in fact play a major role in assisting healthcare systems in finding cures. As this is an issue which greatly impacts the overall human society, greater knowledge of stem cells, as well as what they can do, is imperative in the process of coming to clear, and concise decisions for how best to proceed forward in the matter.

As discussed earlier, this research is hoped to be the magical key in terms of finding a cure of such ailments as Parkinson’s disease. To best understand the benefits of stem cell research, it is also necessary to understand the possible cause and long term symptoms of the ailments which it may help to alleviate, such as Parkinson’s disease. The official resource for the National Institute of Health addresses this as well. Based on their perspective,

Parkinson's disease (PD) is a very common neurodegenerative disorder that affects more than 2% of the population over 65 years of age. PD is caused by a progressive degeneration and loss of dopamine (DA)-producing neurons, which leads to tremor, rigidity, and hyperkinesias (abnormally decreased mobility). It is thought that PD may be the first disease to be amenable to treatment using stem cell transplantation. Factors that support this notion include the knowledge of the specific cell type (DA neurons) needed to relieve the symptoms of the disease. In addition, several laboratories have been successful in developing methods to induce embryonic stem cells to differentiate into cells with many of the functions of DA neurons. It is this disease, along with others, that brings sadness and uncomfortable health consequences, which results from these attackers of the human body, and its inner working capability.

The verbal battle which has resulted from this has come down to the ethical drawbacks which are seen in the religious community, and the politics which are in it from the standpoint of those in political power. The term "politics is politics" can be used here. It is a widely known fact that the Christian right is a strong political factor in current political decision making process, and will surely hold that place for many years to come. It is this political lobby group that is strongly against even the notion of using stem cells for research of any kind. In an article titled "Ethical concerns cloud future of embryonic stem cell research" dated November 14, 2005, the author discusses the ethical issues that have come up. The article mentions a man by the name of Gerald Schatten who according to the news piece is a part of the University of Pittsburgh. Mr. Schatten is discussed in that he left a partnership with another man by the name of Woo-Suk Hwang,

whom he had been working with on stem cell research issues, due to what Schatten felt was an issue of ethics. The project on which these two gentlemen were partnered had to do with a stem cell research main center which, according to the article, would have assisted in mainstreaming stem cell research processes. It also giving countries more wiggle room due to existing negative feelings on the part of some for this kind of scientific manipulation as it has been called. There are those who feel this kind of process is no less than "playing god", but in reality this is providing a serious potential of offering comfort and ease for those inflicted with these dastardly diseases which they re forced to live with every day.

Interestingly enough, the article goes on to say, "Schatten's announcement Saturday has renewed calls for unrestricted U.S. funding of embryonic stem cell research. It also has thrown a wrench into the Koreans' plans for an international program to share stem cell lines _ which would help American and European researchers circumvent restrictions in their own countries," (McCullough). It is a widely known fact that a strong showing in the U.S. government does take issue with the idea of stem cell research, and how it crosses the line towards playing god. Debates ensue on such topics as when does life begin, or can this research even do what scientists are so adamant that it possibly can? In these kinds of situations rumors and mistruth are bound to come up. Such as in this case where the article writes a possible explanation for why the American backed out of his 20-month partnership with Mr. Hwang. They say that, "Rumors have circulated since last year that Hwang's team obtained eggs from a junior colleague, a violation of rules designed to prevent coercion. Korean officials refuted the accusations, but the denials now seem deceptive, Schatten

said in a statement," while giving a response from Schatten which says, "Regrettably, yesterday information came to my attention suggesting that misrepresentations might have occurred" regarding the egg donations, the statement said. Schatten declined further comment," (McCullough). What is unfortunate about rumors and conjecture in any situation is that they can often times cloud the judgment of those involved, and impact the decision(s) they make.

In an article from the National Review dated November 7th, the reporter(s) write that, "Experiments described in Nature point the way toward embryonic-stem-cell research without its ethical drawbacks. It may be possible to extract stem cells from human embryos without killing them. Alternatively, it may be possible to create entities that are similar to human embryos, and can serve as sources of stem cells, but are not human beings in the sense of being organisms. (They cannot organize themselves or direct their own development, and are thus closer to tumors than organisms.) These experiments cannot resolve the ethical debates raised by embryo-destructive research. But they may be able to sidestep them," (National Review). This commentary goes to show that some are moving forward with possibilities which may in fact, in the end, cut out most if not all of whatever ethical issues which others take their own issue with. Without these ethical warning signs that the Christian right claims to see, it would surely seem that this kind of research, even in an altered form, could eventually begin to proceed forward.

It is a commonly held assessment that politicians too have taken an acutely aware look at what is going on in the world of stem cell research. As has been said, politicians will do just about anything to sure up their political base. Looking at what it may mean for them

going into an election year when they have to go back to their home states and have discussions with their individual constituents. In a live television statement given in 2001, current U.S. President George W. Bush takes the issue on, while in the process alluding to the previously mentioned issues of ethics and religion. Mr. Bush ultimately unveils his views in a way characteristic of himself as a politician, and as a man.

In a section of his statement Mr. Bush says that, "The issue is debated within the church, with people of different faiths, even many of the same faith coming to different conclusions. Many people are finding that the more they know about stem cell research, the less certain they are about the right ethical and moral conclusions," Further adding that,

The United States has a long and proud record of leading the world toward advances in science and medicine that improve human life. And the United States has a long and proud record of upholding the highest standards of ethics as we expand the limits of science and knowledge. Research on embryonic stem cells raises profound ethical questions, because extracting the stem cell destroys the embryo, and thus destroys its potential for life. Like a snowflake, each of these embryos is unique, with the unique genetic potential of an individual human being, (Bush).

This statement from the President in itself is an example of the interlocking issue of political involvement, scientific research and advancement, as well as religious implications. In the era of normal day politics as we know it, all three of these issues are intertwined within one consciousness. While they may be of different arenas, all three have consequences for the other. It is this mixing of such

observably different groups, which can lead to society at large feeling like they are forced to choose sides in the matter.

It is important to point out that towards the end of his speech the President begins to allude to what his personal beliefs are. According to him they are,

My position on these issues is shaped by deeply held beliefs. I'm a strong supporter of science and technology, and believe they have the potential for incredible good -- to improve lives, to save life, to conquer disease. Research offers hope that millions of our loved ones may be cured of a disease and rid of their suffering. I have friends whose children suffer from juvenile diabetes. Nancy Reagan has written me about President Reagan's struggle with Alzheimer's. My own family has confronted the tragedy of childhood leukemia. And, like all Americans, I have great hope for cures, (Bush)

He goes on to say,

I also believe human life is a sacred gift from our Creator. I worry about a culture that devalues life, and believe as your President I have an important obligation to foster and encourage respect for life in America and throughout the world. And while we're all hopeful about the potential of this research, no one can be certain that the science will live up to the hope it has generated, (Bush).

Here is shown the President of the United States, the highest and most powerful player in this country, showing small, yet significant signs as to his personal view of stem cell research, and what it could mean. Mr. Bush has never been one to refrain from expressing his religious beliefs, and how important they are to him. Also, he too understands the importance of political stability, in that he carefully molds his opinions to ultimately best fit his political safety. Societal well being can be thrown into jeopardy but politicians gauging their

reactions on their best interests or their own interpretations of what is right or wrong, rather than what may best suit the population they serve.

In judging all of this, there is a lot to grasp in the area. There is to start with the basic understanding as to what stem cell research actually is. Without that, the overall issue is hard to even begin to comprehend. The best decisions are made with the most information read, and the most questions asked when something is not understood to the fullest degree. Then there are the desires and hopes of the scientific community, a community that is desperate to succeed and find that magical cure(s), and lastly the religious factor and the questions of ethics and morality. Both of these have their own motivations for wanted to either see this kind of research precede, as in the scientific community which feels it would be scientifically amazing, or the religious community which feels it would be no less horrible than outright murder. With such powerful entities at odds, it can be virtually impossible for the society, which this research would ultimately benefit to be able to make real decisions on their own. That in the end is what needs to be accomplished. The opportunity for society, going aside from all main parties, and being able to asses for themselves this revolutionary research, and see how they interpret it and the impact it will have on their lives. One could find reasons to argue for and against the idea of stem cell research. It is the right of all in the human race to have such a debate, to have the chance to ask such questions. The key in finding true clarity knows which questions to ask and what it is that you want to know in the first place. If that is not known, questions should not be asked I n the first place due to the fact that the question "asker": does not know what exactly they wish to ask in the first place. The issue of stem

cell research is a very important one for the scientific community, but also for the human community. It is the human community, which will greatly benefit from the potentials of real scientific answers. When all is said and done, that is why this research is supposed to be being done In the first place. The only thing to keep in mind that informed action has to be taken. With the great potential consequence for humans everywhere, it becomes of the utmost importance that this society, this human race, is given the opportunity to ask such questions as they see fit. In the end, they and they alone are the sole beneficiaries of the positive and negative reactions that will follow the path of stem cell research, and will cultivate with whatever final decision(s) are made.

Works Cited

McCullough, Marie. "Ethical concerns cloud future of embryonic stem cell research." The Philadelphia Inquirer (via Knight-Ridder/Tribune News Service) November 14, 2005. Found in accordance with the Stony Brook University Libraries Infotrac Onefile Plus.

"Experiments described in Nature point the way toward embryonic-stem-cell research without its ethical drawbacks." National Review. November 7, 2005. Found in accordance with the Stony Brook University Libraries Infotrac Onefile Plus.

Stem Cell Basics. August 12, 2005. The official National Institutes of Health resource for stem cell research
<<http://stemcells.nih.gov/info/basics/basics1.asp>>

Remarks by the President on Stem Cell Research. August 9, 2001. The
White House

<<http://www.whitehouse.gov/news/releases/2001/08/20010809-2.html>>