

## **International Collaboration to Accelerate Promising Stem Cells Research Hope for New Therapies?**

In the last couple years, I have heard about stem cells on the news more frequently than ever. Although, I could not clearly understand how significant to the medicine these cells could be. I thought, at first, that it would be just another form of therapy. Until I watch quite few before-and-after videos of the dogs treated with stem cells by my sister-in-law, which is a veterinarian in Brazil. Dogs which had an impairment in motor or sensory function of the lower extremities, caused by an illness or injury that resulted in the partial or total loss of use of their limbs and torso for many years. Even so, after the treatment with stem cells, gradually the dogs started to creep, to walk slowly, until they finally start running again. It blew my mind. Wow. Dogs that were condemned to be immobilized for the rest of their lives now have a chance to play and run again. Along with those dogs, horses and cats have been treated for tendon injury and organ failure with stem cells and had recovered gradually during the treatment. Even more, years after the treatment, those animals still in good health, without any side effect caused by the therapy. Similar therapies could be applied to human and cure for many illnesses could be found.

Stem cells are known by their unique regenerative ability and capability of differentiation, which brought hope to suffering people and a dream of promising treatments to the most common diseases around the world, such as heart disease, diabetes, Alzheimer's disease and cancer. Scientists around the world are already studying and using stem cells to develop treatments and possible drugs. Although,

the ethical and policy discussions around human embryonic stem cells (hESC) in some countries are delaying hopeful treatments using these pluripotent cells.

Also, it is stimulating a well known movement, the “medical tourism,” which has been growing along with globalization and internet accessibility. Ill patients would travel to less developed areas seeking for possible cures, bypassing restricted health policies in highly developed countries, desperate to find a cure for their diseases or, at least, prolong their life. They rely in unproven treatments or drugs, many times putting their lives in risk, in an expectation of healing.

Specifically the stem cells tourism has grown with the expansion of health care system in developing countries, such as Asian countries, which do not have a specific legislation on hESC, and started to invest highly in stem cells research while developed countries still limiting or obstructing the use of hESC. Tired of waiting for a resolution of this controversy discussion of hESC research, many sick patients have been traveling to have stem cells transplant, encouraged by successful patients testimonials advertised on more than 23 websites of stem cells clinics in developing countries. Justifiably, people are more likely to seek treatments overseas when they are hopeless, facing the severity of their illness.

Having this information, (naively) I have questioned myself: If there are patients that are having great results with stem cells transplants, even though they were treated in emerging countries, would not be reasonable to exploit those medical discoveries across border incorporating the advanced technology and academia experience from developed countries? An exchange of knowledge and international cooperation could enhance international collaborative bridges and promote a significant progress on stem cells research.

In the next moment, I realize that there are ethical, political, religious and cultural issues involved. Not mentioning possible conflict of interests, pride and

or competitiveness among scientific communities. In the perfect world, researchers, politicians, scholars and religious leaders are working in favor of the welfare of human beings, and whatever it is necessary to be done to overcome any barrier of international intellectual exchange, it will be done. It does not matter any work recognition, promotion or prizes. What it does really matter is to 'rescue' people from any dreadful disease and promote worldwide health. Unfortunately, the world it is not perfect. Instead, decision-makers will put effort in defend whatever it is more convenient to them, many times closing their eyes for possibilities of huge impact on humans health, resulted from discovery of new stem cells therapies.

Although, pursuing this vision of international scientific collaboration on stem cells research, institutes such as International Society for Stem Cell Research (ISSCR), or International Stem Cell Forum (ISCF) along with others, were created to recognize political and ethical context across nations, advocating or monitoring stem cells therapies, and facilitating the deliberation of those issues. Still, development on hESC based therapies is defeated by the established key principle, according to ISCF members, which generations of human embryonic cells must to be minimized. Trying to avoid local political and religious controversy towards stem cells research, we are confronted by the international fundamental ethical issue and cultural diversity. The progress of the medical science is again delayed. Ultimately, desperate patients will continue to seek for miraculous treatments in foreign countries, without considering the conditions of medical care they will receive nor the price they will pay. It becomes not a federal problem for debate, but an international problem.

To promote a significant advancement of potential stem cells therapies it is imperative to have a globalized approach. Approach to develop resources and

achieve international cooperation projects, such that improve the health care conditions in evolving countries where these stem cells based therapies are being performed, enhance global awareness among governments about existing challenges of stem cell research, financial support from an international institution to developing countries expand resources in stem cells research, but most of all, encourage scientific community to be collaborative to one another. An ideal world does not exist, but I still believe that it is possible to have a regulatory institute that could oversee and delegate hESC research to responsible scientists worldwide, managing intellectual property, overcoming governments bureaucracy, in favor of the future of biomedical research. Great minds working in collaboration to a greater cause.

References and Websites

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