

For the first time in Mexico, surgeons implant stem cells obtained from wisdom teeth

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In this photograph taken by Alonso Gallegos: Dr. Rodrigo Liceaga, from the Juárez Hospital, and Dr. Marc Saadia from BioEDEN Mexico use a maxiofacial model of the patient whose cysts were extracted.

of the cells will promote regeneration of the lost tissue in one third of the time necessary for this to happen naturally in the patient, which is typically six months. Thanks to the infusion this time period is cut down to approximately a month and a half.

“This is a medical protocol which we intend to make accessible to patients. We are not experimenting, rather, we are using an avant-garde process”, added the surgeon.

Not only this, but these types of cells are exempt from controversy: “there is no ethic conflict because these cells come from the patients’ own body”, the scientists noted.

Also, to specialists, who worked closely with BioEDEN, Inc. Dental Stem Cell Bank, this is only one of the first applications of dental stem cells with which not only bone can be regenerated, but also nervous tissue. This allows for potential treatments for diseases such as Alzheimer’s and Parkinson’s, along with heart and kidney problems, just to mention a few!

“This is but the first step! In the near future, we will seek to apply this process to regenerate skin

Surgeons from the Juárez Hospital in Mexico and researchers from the Universidad Autónoma de San Luis Potosí (UASLP) performed, for the first time in Mexico, a stem cell implant to regenerate bone tissue of the patient’s mandible.

The doctors operated four cysts in the upper and lower jawbones of the patient. Subsequently, collagen strips containing the stem cells, obtained from his own wisdom teeth 28 days earlier and expanded, were infused yesterday during surgery.

According to Dr. Rodrigo Liceaga, maxillofacial surgeon at Juárez Hospital, the operation and infusion

for burn victims”, stated by Dr. Marc Saadia, director de BioEDEN México, who added that Mexico has the opportunity to take the global forefront in this branch of medicine should the support necessary be received.

SOURCE OF STEM CELLS. After the molar was extracted and the stem cells isolated, researchers from the Universidad Autónoma de San Luis Potosí (UASLP) obtained the stem cells and multiplied these. Yet, this type of cells, which can divide and transform into the necessary cells to produce organs and tissues and to repair the immunologic system, has various and particular points of origin. In fact, everyone has them, but the younger the better, it is said.

Research in various countries has shown that dental stem cells can be used in particular cases, depending on their origin. So, while cells obtained from umbilical cord blood have advantages in the blood stream, dental stem cells have the clear advantage in bone tissue. Furthermore, stem cells can be found in adipose tissue, bone marrow, and even in fallopian tubes, all of which are being studied.

However, dental stem cells are special, according to Mexican scientists, due to the fact that obtaining these cells is a non-invasive and painless process as opposed to a bone marrow aspiration, for example. Also, dental stem cells are “relatively inexpensive” to reproduce, preserve, and implant.

“These cells found in teeth —pointed out Dr. Raúl Rosas, professor and researcher at UASLP— can be obtained both from baby and permanent teeth. Although, the first hold the advantage since they are younger and have shown a greater capacity to reproduce and regenerate.”

“Both can regenerate bone, cartilage, and muscle, but stem cells from baby teeth can also regenerate nervous tissue, hepatocytes, and cardiomyocytes”. Dr. Rosas also added that the potential is far greater for these young cells according to current research.

OPPORTUNITY AND INVESTMENT. Worthy of mention is that the possibility to store these cells, through extraction of baby teeth during childhood, and use them in the future when a condition arises, is the same for the donor and their immediate family members, such as: parents, siblings. “Children can be donors for their own parents!” Dr. Marc Saadia emphasized. But, he also reminds us, that this technology will be more readily available in at least five to ten more years.

This area of medicine can be of great success in Mexico, Dr. Saadia reiterated, but the only way to propel such advances is the same as most research projects: sufficient resources.

Similarly, Dr. Liceaga says he has more than enough patients, but not enough resources. The same is true for researchers at UASLP, whose work, on studying the application of stem cells on corneas, is being hinged.

Dr. Liceaga points out, “We are at the same level as developed countries, but without the necessary funds we will be unable to continue research.”

To remain par, the director of BioEDEN Mexico firmly believes the following assertive measures must be implemented to maintain the scientific development of this country: 1) Create dental stem cell banks in Mexico (currently he is affiliated with a laboratory in Austin, TX) such as umbilical cord blood banks, which do exist. 2) Acquire more funds and resources for research and know where to invest to obtain the best treatments. 3) Create a center of regenerative medicine where stem cells can be preserved, expanded, and infused.

“These are the keys to take advantage of this opportunity to be leaders in the field of dental stem cells,” he assured.

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