International Conference on
STEM CELLS AND REGENERATIVE MEDICINE
&
2nd World Congress on
PEDIATRICS AND CHILD CARE
November 06-07, 2019 | Tokyo, Japan

Stem cells in diabetes: Unspoken risks and uncomfortable questions

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According to the world health organization's statistics published in 2018, The number of people with diabetes has increased from 108 million in 1980 to 422 million in 2014 and still growing. Only in Poland the number of deaths attributable to high blood glucose in 2016 was estimated at 25800.

Type 1 diabetes can be treated and its consequences avoided or delayed, but still, a reliable method of complete recovery remains undiscovered.

Cell-based therapies for beta-cell replacement are now under intensified investigation. Researchers have been advancing methods to generate insulin-producing beta cells from pluripotent stem cells (PSC) for the clinical treatment of diabetes. Although American researchers say, that once taken stem cells can be multiplied indefinitely, the use of stem cells from human embryos still raises ethical resistance.

Apart from the stem cell ethical factors, physicians and scientists have more moral dilemma connected with the selection of patients for the treatment and possible risks. Mostly mentioned risks are tumors, the growth of the stem cells into unwanted cell types and taking immunosuppressive drugs that suppress the activity of the immune system. Other than that, the scientists tend to present the matter in bright colors. Patients physical and psychological reaction to a sudden "miracle cure" could be difficult to predict. Stem cell treatment may become harmful to the good habits worked over the years. To some patients it may cause some kind of "breaking the leash" syndrome, especially those of type 2 diabetics, for who the cause of the disease was poor eating habits. Obvious priority is given to the type 1 diabetes children, in whom the disease has not yet caused significant changes in the body and way of thinking, but many unobvious risks still need to be discussed.

Biography

Ewa Kozłowska has a Masters in Mechanical-Medical Engineering, an inter-academic field of study run cooperatively by Gdansk University of Technology and the Medical University of Gdansk, Poland. She has started working on effective interdisciplinary online collaboration methods to be used by engineers and physicians in May 2015 by volunteering in ERASMUS+ projects and taking part in Moodle MOOCs. She is currently working on her PhD in the topic of material engineering and medical devices designing with the use of computer collaboration tools by multidisciplinary specialists.

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