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Ukrainian experience of fetal stem cells transplantation for severe human diseases treatment: 13 years of clinical applications in legal field

In 1999 Ukrainian Parliament approved Law of Ukraine “About the Transplantation of Organs and Other Anatomical Structures to Human” that regulates the application of fetal stem cells in treatment of people in severe disease conditions. From those moment were conducted dozens of preclinical study and clinical trials on the efficacy of fetal stem cells transplantation in diseases of the heart and vascular, liver and kidney, endocrine and nervous system, blood diseases and pathology of immune system, skin, connective tissue and bones diseases, eye diseases and disturbance in hearing, pathology of stomach and intestine, pancreas and likewise treatment of reproductive system dysfunction.

This Law reviews introduction of fetal stem cells into body as transplantation, and the cells themselves as graft. Clinical trials conducted not by the schedule of implementation for pharmacological drugs, but by protocols of clinical trials of the organ transplantation i.e. first (introduction of cells to healthy people) and fourth (analysis of massive number of observation by their results of multicenter trials) phases of clinical trials are absent. As the result in short period of time developed and implemented in clinical practical the biotechnological methods of treatment in myocardial infarction (introduction of fetal stem cells in the zone of infarction and hibernating myocardium with the help of navigation system NOGA), pancreonecrosis (with the use of differentiating potential of mesenchymal stem cells from Wharton jelly to obliterate the open flow of pancreatic duct), diabetes mellitus I and II types, chronic ischemia of the lower limb, secretory and endocrine male forms of infertility, impotency, degenerative diseases of the nervous system, arterial hypertension, liver cirrhosis and many other diseases.

The indications and contra-indications (absolute and relative) developed were to application of stem cells for treatment of human diseases. Principles of deontology and medical ethics in regenerative medicine using fetal stem cells were determined. The period of treating diseases with the help of regenerative medicine, their dozes, frequencies of introduction, possible complications and side effects were established. Passports of fetal stem cells providing their biological safety were developed. Scientists of Ukraine are open for collaboration and ready to share their experiences of development in regenerative medicine using fetal stem cells

Biography

Olexander L. Kukharchuk, M.D., Research Director of EmProCell Clinical Research Pvt. Ltd., visit-professor MGM University of Health Sciences, Mumbai, Professor of Medicine.

Dr. Olexander L. Kukharchuk was specialized as “medical practioner” at Chernivtsi Government Medical Institute (Ukraine, Chernivtsi). CMSc. (Candidate of Medical Science) defended on 1989 in the session of specialized academy council at Kaunaski Medical Institute (Lithuania). D.M.Sc (Doctor of Medical Science) defended 1996 in the session of specialized academic council at Odessa Governmental Medical University (Ukraine). Associate Professor obtained on 1996, Professor obtained on 2001. 1982-1991: Assistant, Department of Pathophysiology Chernivtsi Government Medical Institute (Ukraine, Chernivtsi). 1991-1994: Senior Tutor, Normal Physiology with course of Pathophysiology at Chernivtsi Government Medical Institute (Ukraine, Chernivtsi). Head of the Central Research Laboratory and Senior Tutor of the Pathophysiology Department at Chernivtsi Government Medical Institute (Ukraine, Chernivtsi). 1994-1995: Head of Central Research Laboratory, Associate Professor of the Normal Physiology Department at Bucovinian Government Medical Academy (Ukraine, Chernivtsi). 1995-1997: Director of the Centre for Scientific-Medical Investigation at Bucovinian Government Medical Academy (Ukraine, Chernivtsi). 1997-2002: Head of the Normal Physiology Department at Bucovinian Government Medical University (Ukraine, Chernivtsi). 2002-2005: Research Director of the Centre for Embryonic Cells “EmCell”(Ukraine, Kiev). 2005-2006: Research Director of the Coordination Centre for Transplantation of Organs, Tissues and Cells of the Ukraine Health Ministry (Ukraine, Kiev). 2006-2010: Director of Coordination Centre for Transplantation of Organs, Tissues and Cells of the Ukraine Health Ministry; Chief Specialist of the Ukraine Health Ministry by specialization “Transplantology”; Research Director of Institute of Cell Therapy (Ukraine, Kiev); Director EmProCell Clinical Research Pvt. Ltd. (India, Mumbai)

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