Guido Nikkhah, J Stem Cell Res Ther 2012, 2:5
http://dx.doi.org/10.4172/2157-7633.S1.005

OMICS Group Conferences
Accelerating Scientific Discovery

International Conference on
Regenerative & Functional Medicine

November 12-14, 2012 Hilton San Antonio Airport, USA

Stem cell-based restorative approaches in neurodegenerative diseases: A new horizon for regenerative neurosurgery

Guido Nikkhah
University Medical Center Freiburg, Germany

The current interest and scientific progress in progenitor and stem cell biology has funneled a major scientific endeavor in the field of neural development and repair, with intriguing new insights into cellular differentiation and integration under normal as well as pathological conditions. In particular, the development of neuronal progenitor grafts towards a transplantation therapy in Parkinson's and Huntington's disease (PD, HD) has received a widespread interest. Firstly, there is a substantial body of evidence about the structural and functional anatomy of the neurotransmitter systems (dopamine and GABA) during development and in the adult central nervous system. Secondly, current clinical transplantation protocols for patients with PD and HD are profoundly limited e.g. by the use of fresh embryonic graft material derived from human abortions and by uneven and ectopic graft-derived innervation. Thirdly, more than 20-years of experimental experience with neuronal grafts in well characterized animal models of PD and HD have accumulated now a significant body of knowledge about DA grafts survival, integration and functional recovery. Currently there is a active scientific debate about a number of important topics, such as (i) can fetal neuronal grafts reverse clinical symptoms of PD and HD, (ii) are age and/or clinical status of the patient relevant prognostic factors and (iii) what are the underlying mechanisms for graft-induced improvements and potential side effects after transplantation. This talk will focus on our own experimental and clinical experience and will be directed towards the further progress in this novel and exciting field of restorative neurobiology and neurosurgery.

Biography

Guido Nikkhah has completed his M.D. and Ph.D from the University of Giessen (Germany) and Lund (Sweden), respectively. He has been a neurosurgeon and neuroscientist at the Medical High School of Hanover for 10 years. He is currently the director of the Division of Stereotactic and Functional Neurosurgery in Freiburg. Hi major interests are novel functional neurosurgical procedures such as neural transplantation and deep brain stimulation in movement disorders. He has published more than 100 papers in reputed international journals, where he also serves as an editorial board member.

guido.nikkhah@uniklinik-freiburg.de