PRESS RELEASE

Nanomaterials to solve corneal blindness developed by Indo-Japan research team

Neural stem cell transplantation for spinal cord injury and immune tolerance in allogenic organ transplantation take the centre stage at NCRM NICHE 2011

Madras Medical College wins the Prestigious Fujio Cup in the 6th edition of stem cell quiz

Chennai, Oct 15. A novel nanomaterial based technology to solve corneal blindness due to endothelial diseases has been developed by an Indo-Japan consortium of stem cell scientists and nanomaterial experts as presented by Dr Kazutoshi Haraguchi, Director, Kawamura Institute of Chemical Research, Japan in the sixth anniversary of Nichi-In Centre for Regenerative Medicine- The NCRM NICHE 2011. These findings give a lot of hope to thousands of patients all over India and developing nations who suffer from isolated corneal endothelial disease according to Dr Parikumar, an Ophthalmologist and associate of NCRM.

There are approximately 1 million patients with corneal blindness in India and annually close to 1 lakh victims of corneal diseases require a corneal transplantation, whereas only less than one-third are able to get treated due to lack of donor corneas. Among this group of patients one-third have, only the endothelial problem, one among the three layers of the cornea which can be treated by using the endothelial stem cells. The present methodologies use one-donor eye for treating one-patient eye i.e. “an eye for an eye” whereas our novel nanomaterials which are capable of multiplying the corneal endothelial stem cells in the lab and by using a nanosheet they can be safely applied to the eye as proven in animal studies. The cells taken from one donor can be multiplied and could be used to treat more than one-eye making this a revolutionary phenomenon called “An-eye-for-eyes” said Dr Abraham, Director, NCRM. The lecture by Dr Haraguchi was in commemoration of the International Year of Chemistry 2011.

Dr. Koichi Iwatsuki from Osaka University, Japan, presented his data of application of olfactory mucosa, a small portion of tissue from the upper portion

of nose which has neural stem cells in treating spinal cord injury and in his clinical application this has shown significant efficacy in patients proven by positive neural signals in their thigh following the transplantation.

Prof. Gary Levy from University of Toronto and the director of the web based Training Programme in Regenerative Medicine (TPRM) an affiliate of **Toronto University, Mac Master University and Ottawa University** which is conducted at NCRM (*The only centre in India for the TPRM*) awarded the certificates to the scholars of the 2010-11 batch of scholars and earlier he gave an enlightening talk on biomarkers for identifying post-transplantation rejection. He presented their work on allogenic hand transplantation following which all the tissue were alive and functional including the neural tissues with the patient being able to perform highly meticulous and fine tasks. He lauded the efforts of NCRM in bringing the basic scientists and clinicians as well as technologies and opportunities together between nations.

The Fujio Cup Quiz, an exclusive inter-collegiate national level quiz on stem cells which is conducted for the sixth consecutive time was won by the Madras Medical College team. Handing over the ever rotating Fujio Cup named after the renowned Japanese physician Dr Fujio Takayama to the winners in the valedictory session, the consul general of Japan at Chennai Mr. Masanori Nakano congratulated NCRM for its contribution to this futuristic field of science by conducting this meeting which is the only one of its kind in regenerative medicine in India conducted every year since 2006 and also NCRM being the ONLY Japanese collaborating organization in India in this field.

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