**"Made in India Stem Cell Therapy for Blindness” receives global validation**

***This ingenuous technique was termed Simple Limbal Epithelial Transplantation (SLET) to contrast it from the radical tissue transplants and complex culture techniques*** ETHealthWorld  |  06 April 2016, 2:51 PM IST



In a breakthrough, scientists have discovered a novel way to transform skin cells into mature, fully functioning liver cells that can flourish on their own.
An idea that stemmed from an intellectual exchange between Dr Virender Sangwan, Director - Srujana Centre for Innovation, Centre for Regenerative Ophthalmology and Clinical Research, and Dr Sheila McNeil, Professor of Regenerative Medicine, Linkoping University, Sweden, has completely revolutionized the world of stem cell medicine today.

In 2010, L V Prasad Eye Institute (LVPEI) moved away from culturing corneal stem cells in a petri-dish in the laboratory to directly culturing and expanding them on the patient's eye. This ingenuous technique was termed Simple Limbal Epithelial Transplantation (SLET) to contrast it from the radical tissue transplants and complex culture techniques that were the standard of care at that time. SLET completely eliminates the need for laboratory based processing thereby making it possible to be executed by any well trained surgeon anywhere. SLET has been adopted by corneal surgeons the world over, including institutions like Harvard and Bascom Palmer in USA. This simple technique reduces cost as well as visits for the patients.

Dr Sayan Basu, Consultant and Scientist, Cornea and Anterior Segment Services highlighted this achievement and added that the real test for any scientist is the validation of his work by his peers and the community at large. "Today we are honoured with the two validations - the first being the recent publication in the *British Journal of Ophthalmology* published by a group of 8 different centers across the globe and the second is the long-term outcome of the 125 cases treated at LVPEI Hyderabad by our teams and the corneal surgeons trained here."

A pilot clinical trial was done on a small sample size including 125 patients, 65 adults and 60 children who developed unilateral limbal stem cell deficiency (LSCD) after suffering ocular surface burns and underwent SLET between 2010 and 2014. The results indicated close to 80% success rates. This makes SLET clinically a more effective procedure than all previous techniques including cell cultivation.

Dr Virender Sangwan, Director - Srujana Centre for Innovation, Centre for Regenerative Ophthalmology and Clinical Research said, "True to its name, SLET allows the marvel of stem cell therapy to be easily accessible to anyone who needs it." SLET has demolished the invisible walls that had made limbal stem cell transplantation an exclusive procedure. Earlier it was practiced by only an elite group of ophthalmologists who worked in sophisticated centers with stem cell labs.

Dr Sangwan further added that the team at LVPEI has been performing SLET on patients with blinding and unsightly ocular burns and restoring their sight, apart from training cornea surgeons from across the world. This significantly decreased the cost and made limbal stem cell transplantation more accessible through SLET.