Blood vessel sample from the conjunctiva of the eye

Periasamy Parikumar and Shobhana Sugirthamuthu
The Light Eye Hospital, India

We diagnose a person’s health by examining the pulse & blood. We just examine the content and ignore the container. Here we are coming up with a concept where we could take a blood vessel sample, in addition to the blood sample, which alone would give a person’s total health information. The Virchow’s triad speaks of endothelial cell damage, which we have missed out for more than a century. Here we propose a personalized evaluation of a person’s health by correlating both the blood sample report and the Blood Vessel Sample report. The only part of the body from which we can safely collect a Blood Vessel Sample is the conjunctiva of the eye. An Ophthalmologist will take out a couple of millimeters of blood vessel sample from the conjunctiva with ease as an outpatient procedure. The endothelium is then expanded and subjected to a battery of biochemical investigations like Nitric oxide production capacity, VEGF etc and histopathological examinations. The kit containing instruments needed to collect the Blood Vessel Sample is patent protected. The standard operating procedure is patent & copyright protected. The new terminologies we propose are blood vessel sample, blood vessel sample kit, vascular endothelial response to diabetes, diabetic conjunctival vasculopathy, invisible vascular web, visible vascular web, supra tenon vascular web and infra tenon vascular web. Hence a person’s health is determined and diagnosed only by evaluating both the blood sample and the blood vessel sample. This procedure is not only limited to diagnostic purposes but could be used as a therapeutic method to treat the micro vascular diseases. This will pave way for a paradigm shift in treating metabolic syndromes, micro vascular and macro vascular diseases.

Recent Publications

1. Successful transportation and in vitro expansion of human retinal pigment epithelium and its characterization; A step towards cell-based therapy for age related macular degeneration.- 2012 – current trends in Biotech
2. Successful transplantation of in vitro expanded human corneal endothelial precursors to corneal endothelial surface using a nanocomposite sheet.- 2011- JSCRM
3. Successful Transplantation of In Vitro Expanded Human Cadaver Corneal Endothelial Precursor Cells On to a Cadaver Bovine’s Eye Using a Nanocomposite Gel Sheet.2013- current eye research
4. Successful transportation of human corneal endothelial tissues without cool preservation in varying Indian tropical climatic conditions and in vitro cell expansion using a novel polymer.2013 – IJO

Biography

Periasamy Parikumar is an ophthalmologist and a stem cell researcher. He owns an Indian patent and a US patent. He has performed about 30,000 intraocular lens implantation surgeries and has taken part in several eye camps and eye donation activities. He has published several papers on Stem cell research in the national and international journals like Indian Journal of Ophthalmology, American Journal of Stem Cells and PubMed.