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Induced pluripotent stem cell vs mesenchymal stem cell in Retinitis pigmentosa patients

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Retinitis pigmentosa is a typical mark for a heterogeneous gathering of heritable retinal degenerative infections that outcome in dynamic visual misfortune optional to photoreceptor cell death. Of the 2 photoreceptor cell types in retina (Rods and cones), these diseases primarily affect rods. This is reflected in the regular clinical course of retinitis pigmentosa, which more often than not starts with loss of bar intervened night vision and Advances throughout the years with dynamic loss of the fringe visual field and, at last, the loss of focal, cone-interceded vision. There is concomitant attenuation of the retinal vasculature. It is thought that vascular loss follows decreased metabolic demand by the photoreceptors. Currently no definitive treatment for retinitis pigmentosa exists, although nutritional approaches

may slow some forms of this disease. Mesenchymal stem cells (MSCs) are progenitors of all connective tissue cells. A number of studies have shown that bone-marrow-derived MSCs can differentiate into cells expressing photoreceptor proteins. Induced pluripotent stem cells are ES-like pluripotent cells capable of differentiating into most, if not all, body cells. This potential promises an unlimited source of differentiated cells to replace those lost in many human degenerative diseases. In this study we compare between two types of stem cells to restore vision in RP patients. Results are compared according to visual outcome, investigations and complications. Finally the use of stem cell is useful in cases of retinitis pigmentosa and may be other retinal dystrophies.

Biography

Abdelhakim Mohamed Safwat, Medicine doctor, now is Assistant lecturer of ophthalmology department, Al-Azhar University Member in Egyptian society of ophthalmology (EOS), Egyptian vitreoretinal society. He got B Sc in medicine 2003, master in ophthalmology (treatment modalities in age related macular degeneration), and diploma in uses of laser in medicine. His working experiences: internship in Al-Azhar University hospitals for one year, resident in ophthalmology department for 3 years, fellow in international eye hospital for 3 years and assistant lecturer up till now. His studies focus on regenerative medicine in ophthalmology mainly age related macular degeneration and retinitis pigmentosa. Scientific activities: speaker in international neuropsychiatric conference of Alexandria University, annual conference of clinical pathology department of Cairo University, Egyptian vitreoretinal society meeting 2014, international conference of stem cell and nanotechnology of Ainshams University, stem cell scientific meeting in national institute of research and 2nd annual world congress of geriatrics and gerontology 2014.

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