Multifocalelectroretinography Result before and after Peribulbar Injection of Allogeneic Umbilical Cord – Mesenchymal Stem Cell Secretome for Late-Stage Retinitis Pigmentosa.

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Author(s): Mangunsong, Cosmos Octavianus; Wirohadidjojo, Yohanes Widodo; Djaja, Melita Suwan; Sartika, Cynthia Retna; Wijaya, Andi; Putera, Bayu Winata; Sasongko, Muhammad Bayu

Abstract:

Background: Retinitis Pigmentosa (RP) is a rare retinal genetic disease without available treatment to date. Previous studies show growth factor and regenerative ability of secretome from cultured allogeneic umbilical chord mesenchymal stem cells (UC-MSC). This studyaimed to report multifocal electroretinography of retinal photoreceptor responsefrom RP patients, before and after injection of secretome from allogeneicUC- MSC. Patients and Methods: Four subjects with severely damage retina (visual field defect of 25 %- 50% in initial Humphrey perimetry examination) were recruited and givenperibulbar injection of secretome from allogeneic cultured UC-MSC. Visual acuity, visual field examination, multifocal electroretinogram of retinal photoreceptor examination were observed before and periodically after injection until six months period Results: Overall, we observed subtle changes in N1 and P1 amplitude and implicit time only in ring 1 at 1, 3 and 6 month post secretome injection. Conclusion: Peribulbar injection of allogeneic UC-MSC secretome had very miminal influence on photoreceptor activity in late-stage RP patients.