

Abstract

Diabetic retinopathy is retinal disease causing irreversible cell damage and consequently a loss of vision. Current treatment protocols have many limitations and are associated with serious side effects. A possible treatment option for retinal degenerative diseases is a use of stem cells. There are different types of stem cells. These include embryonic stem cells, induced pluripotent stem cells and cells from an adult organism, among which we can include mesenchymal stem cells (MSCs). MSCs can be found in almost all tissues of the adult organism. MSCs can migrate to the site of damage, regulate development of inflammation in retina, suppress the formation of fibrovascular scars and replace damaged cells such as nerve cells, photoreceptors and epithelial pigment cells. Application of MSCs could be a promising treatment for degenerative retinal diseases.