

## عنوان مقاله:

Role of Schwann Cells in Preservation of Retinal Tissue by Reduction of Oxidative Stress in Dystrophic Royal College of Surgeons (RCS) rats

## محل انتشار:

بیست و هشتمین کنگره سالیانه انجمن چشم پزشکی ایران (سال: 1397)

تعداد صفحات اصل مقاله: 1

## نویسندگان:

.Alireza Lashay - Farabi Eye Hospital, Tehran University of Medical Sciences

.Raziyeh Mahmoudzadeh - Farabi Eye Hospital, Tehran University of Medical Sciences

.Saeed Heidari Keshel - Farabi Eye Hospital, Tehran University of Medical Sciences

.Asieh Naderi - Farabi Eye Hospital, Tehran University of Medical Sciences

## خلاصه مقاله:

**Purpose:** Schwann cells are able to protect and support retinal cells by secreting growth factors such as brain-derived neurotrophic factor, glial cell line-derived neurotrophic factor, and basic fibroblast growth factor, on the other hand the antioxidant capacity of Schwann cells may play a role in reducing degenerative retinal damage. This study will evaluate the effect of subretinal injection of Schwann cells on retinal tissue by reducing the oxidative stress in Dystrophic Royal College of Surgeons (RCS) rats. **Methods:** 18 Dystrophic Royal College of Surgeons (RCS) rats kept in standard condition. Sub retinal injection of  $3 \times 10000$  (cells/ $\mu$ L) Schwann cells in right eye of cell group and media injection in right eye of sham group done. Injections done always in the same place 2 mm above superior limbus. AC tap done before injection. The proof for appropriate site of injection and stability of Schwann cells in subretinal space was confirmed by the green fluorescent protein (GFP) positive Schwann cells. Enucleation for histologic, enzymatic including: Catalase, Superoxide dismutase (SOD), Glutathione peroxidase (GPx1) and electroretinogram (ERG) evaluations in different periods of month 1, 2 and 3 done. **Results:** Three month after injection, pathology showed that sham group had complete absence of outer nuclear layer, photoreceptors and obvious reduction of RPE and mild reduction of inner nuclear layer. Unlike shams, cell group showed mild presence of outer nuclear layer and marked preservation of RPE and choroidal congestion. Enzymatic evaluation showed statistically significant expression of oxidative enzymes in first 3 month in cell group. ERG results showed significant preservation of a-wave and b-wave in cell group at the end of month 3. **Conclusion:** Schwann cells are able to reduce the speed of degeneration in RCS rats by reducing oxidative stress.

## کلمات کلیدی:

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/809749>



