

3<sup>rd</sup> Edition of International Conference on **Eye and Vision**  
&  
2<sup>nd</sup> International Conference and Expo on **Advanced Eye Care and Cataract**

June 14-15, 2018 Rome, Italy

### Subtenon transfusion of dexamethasone to treat experimental autoimmune uveitis in rabbits

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**Aim:** Drug delivery to the targeted ocular tissues remains a challenge. Subtenon transfusion allows prolonged controllable release of drugs directly into the eye according to the need. In this study, we investigate the efficacy of subtenon transfusion of dexamethasone in the rabbit model of experimental autoimmune uveitis (EAU).

**Methods:** Experimental autoimmune uveitis (EAU) in rabbit was induced first by injection the emulsion of bovine serum albumin (BSA) and complete Freund's adjuvant (CFA); and one week later intravitreal injection of BSA. A total of 48 rabbits were randomly allocated to the four groups as follows: (1) received subtenon transfusion dexamethasone; (2) received intravenous and subconjunctive dexamethasone used as a standard therapy control; (3) model EAU control group; and (4) normal control group. Treatment was administered 24 hour post-immunization in the first two groups. We evaluated the anterior segment inflammation state by slit lamp biomicroscopy (standardization of uveitis nomenclature grading) for 14 days and histopathology on 14 days post-immunization.

**Results:** Uveitis developed in all rabbits of the first three groups, and the clinical uveitis scores and histological scores were all higher than the normal control group. The uveitis anterior segment clinical scores reached peak in the treated group 1 ( $2.17 \pm 0.94$ ) and group 2 ( $2.42 \pm 0.79$ ) on day four, post-immunization, and in model EAU control group ( $3.25 \pm 0.62$ ) on day five. Treatment significantly reduced the anterior segment inflammation score from day five to day 14 and histological score on day 14 post-immunization compared to the model EAU group ( $P < 0.05$ ). In all the observed timepoints, the uveitis clinical score and histological score were insignificantly difference in the two treated groups.

**Conclusion:** Subtenon transfusion dexamethasone significantly attenuates rabbit experimental autoimmune uveitis (EAU). It is effective in controlling rabbit experimental autoimmune uveitis (EAU) and may decrease dexamethasone system side effect than the traditional system treatment.

#### Biography

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