( ) R1 (X) R2 ( ) R3 ( ) PG0 ( ) PG1 ( ) Estagiário ( ) Tecnólogo ( )
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Service (sector) Retina and Vitreous Nº CEP

Effects of subretinal injection of two different triamcinolone acetonide in rabbit eyes

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Purpose: To evaluate the effects of triamcinolone acetonide (Ophthalmos) (TA) and supernadant of triamcinolone acetonide (Kenalog) (KE) injection into the subretinal space of rabbit eyes. **Methods**: Eight *Dutch-belted* rabbits underwent two-port vitrectomy in the right eye followed by injection of micronized preservative free TA and supernadant of KE into the subretinal space, just inferior to the optic disc through a tiny retinotomy performed with a 41-gauge translocation cannula. Balanced Salt Solution (BSS) was also injected as a control subretinal solution. The blebs of the three substances were separated by two reference marks which were performed by a red diode laser that facilitated histological sections after subretinal blebs reabsorption. Animals were examined at 6, 12, 24 hours, and 14 days after surgery. The eyes were studied by indirect funduscopy, fluorescein angiography, light and transmission electron microscopy. **Results**: Subretinal injection of BSS caused minimal edema on the photoreceptor outer segments. However, subretinal injection of TA as well as KE caused damaged on the photoreceptor inner and outer segments at 6 and 12 hours after surgery. Twenty -four hours and 14 days following the surgery, outer nuclear layer was also damaged on KE subretinal bleb. **Conclusions**: Histological damage induced by subretinal KE was more important than damage induced by TA. We hipothesize that alcohol, which is used as a vehicle of KE, may cause this abnormalities observed at subretinal KE position. This data emphasizes that we should be aware regarding the triamcinolone we are using in order to avoid any additional risk for retinal toxicity, if subretinal migration occurs during internal limiting membrane peeling in macular hole surgery.