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PS3-4

THE STUDY OF A SINGLE INJECTION OF INTRAVITREAL TRIAMCINOLONE ACETONIDE IN SILICONE OIL FILLED EYE USING MRI

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The vitreous cavity has increasingly been used as a reservoir for drugs to treat intraocular diseases directly [1]. These drugs include corticosteroids (Triamcinolone Acetonide, TA) which is used to decrease inflammation [2], antibodies (Avastin) as an inhibitor of angiogenesis, and antibiotics (Gentamicin) which is indicated in topical treatment of ocular bacterial infection [3]. This study focuses on the intraocular migration and geometry change of these drugs after injecting into vitreous cavity filled with silicone oil tamponade agent, with the help of high-resolution as well as real-time MRI technique [4]. Pars plana vitrectomy was performed, with normal-weighted silicone oil (Siluron 2000+) and heavy silicone oil (Densiron) injected into the pig eye's vitreous cavity. Drug suspension or solution was injected into the silicone oil bubble inside the vitreous cavity through the pars plana after the vitrectomy under real-time MRI scan. Intraocular environment at time points before and after corticosteroid injection was recorded with high-resolution T2 weighted MRI image. The ability of oil with different viscosity and density to conserve different drugs and the effect of drugs on the retina at different concentration was studied [5].

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1. Jonas, J.B., *Intravitreal triamcinolone acetonide: a change in a paradigm*. Ophthalmic Res, 2006. **38**(4): p. 218-45.
2. Tong, J.P., et al., *Effects of triamcinolone on the expression of VEGF and PEDF in human retinal pigment epithelial and human umbilical vein endothelial cells*. Mol Vis, 2006. **12**: p. 1490-5.
3. Lalitha, P., S.R. Rathinam, and M. Srinivasan, *Ocular infections due to non-tuberculous mycobacteria*. Indian J Med Microbiol, 2004. **22**(4): p. 231-7.
4. Jonas, J.B., *Concentration of intravitreally injected triamcinolone acetonide in intraocular silicone oil*. Br J Ophthalmol, 2002. **86**(12): p. 1450-a-1451.
5. Muhamet, K., et al., *Retinal toxicity of triamcinolone acetonide in silicone-filled eyes*. Ophthalmic Surgery and Lasers, 2000. **31**(6): p. 474.

PS3-5

BENEFICIAL EFFECT OF LUTEIN ON RETINA IN A MODEL OF ACUTE RETINAL ISCHEMIA/REPERFUSION

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