

R1 R2 R3 PG0 PG1 Estagiário Tecnólogo
PIBIC Last Name - Mello-Filho First Name - Paulo Augusto Middle - de
Arruda

Service (sector) Retina and Vitreous N° CEP

Development of an Ocular Implant of Slow Delivery of Triancinolone Acetonide in the Posterior Segment of the Eye

Paulo Augusto de Arruda Mello Filho, Signe Varner, Dilek Gueven, Nathan Beeley, Eujene de Juan, Michel Eid Farah

University of Southern California – Los Angeles –CA – EUA

Purpose: To develop a slow drug delivery system of Triancinolone Acetonide (TA) to the posterior segment of the eye.

Methods: We developed an intra-ocular implant coated with a non-biodegradable matrix and TA. The elution characteristics of the drug from the implant was determined *in vitro* and the surgical implantation procedure of the device in animals was optimized.

Results: The final drug loaded device is comprised of a non-ferrous metallic scaffold with a drug impregnated polymeric coating. The average drug loading on an implant is roughly 900 micrograms. Drug is released by diffusion from the surrounding polymer matrix. Two different “dosage” devices will be investigated: Implant A: 1.5 micrograms/day and Implant B: 5.0 micrograms/day

Conclusion: A retrievable intravitreal device has been created that is capable of delivering therapeutic levels of corticosteroid for over one year. Implantation of this helical intravitreal device in rabbit eyes was simple and short in duration. Long term follow-up revealed excellent biocompatibility and lack of surgical complications.