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Service (sector) Cornea and External Disease N° CEP

Experimental model of epithelialization of the anterior chamber.

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Purpose: To develop an experimental model of epithelialization of the anterior chamber in rabbits. **Methods:** Six male albino rabbits were used in this experiment. A conjunctival flap of 5 x 10 mm was prepared and inserted into the anterior chamber in the same eye (OD). The graft was positioned over the endothelium with the aid of an air bubble. Slit-lamp biomicroscopy and confocal microscopy were performed before, one and two weeks after the surgical procedure. After two weeks, all animals were euthanised and both eyes were enucleated and prepared for histological studies. **Results:** On the slit-lamp examination it was possible to identify the conjunctival graft placed over the posterior cornea in five of the six animals. One animal (# 6) developed ocular hypertension and buphthalmos during the first week after the surgery. All the animals developed localized corneal edema that made the confocal microscopy analysis difficult. In one animal (# 3) the confocal microscopy identified a sheet of epithelial cells adhered to endothelium after two weeks. **Conclusion:** The experimental model described herein allowed us to developed a model of epithelialization of the anterior chamber in rabbit eye. Improvements in the surgical technique are necessary to decrease inflammatory process and corneal edema in order to facilitate the confocal image analysis. With these modifications, the experiemental model may be used in future studies searching for new therapies to treat this devastating condition.