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HUMAN vs. RABBIT AMNIOTIC MEMBRANE TO BE USED AS A GRAFT FOR INDUCED CORNEAL THINNING IN RABBITS

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CO Purpose: To compare the outcomes of human and rabbit amniotic membrane (AM) to be used as a graft for surgically induced corneal thinning in rabbits. **Material and Methods:** Thirty two New Zealand white rabbits, males, weightening 1,5-2.0 kg were divided in 2 groups of 16 animals according to the AM type (Human AM: group I and Rabbit AM: group II). The right eyes of all animals underwent a 0.1mm thickness keratectomy using a 5mm trephine. Fragments of 6mm rabbit and 5mm human AM were secured to the corneal bed of the corresponding animals using continuous 10.0 nylon suture. After 2, 7, 15 and 30 days postoperatively, 4 animals of each group were euthanized and had their corneas fixed in 2% glutaraldehyde and evaluated under optical microscopy (HE, picrosirius and alcian blue). The histopathological images were digitalized and inflammatory cells and stromal blood vessels were counted. **Results:** There were no clinical significant differences between human and rabbit AM groups, with all animals presenting complete corneal epithelialization after 30 days. At optical microscopic evaluation, we could observe incorporation and reabsortion of AM in both groups. However, the number of inflammatory cells and blood vessels was significantly higher in group I (human AM) than in group II (rabbit AM) ($p < 0,05$, Mann-Whittney test). **Conclusion:** We could not identify significant clinical differences between human and rabbit AM used as a graft for the rabbit cornea. Comparing with the rabbit AM, human AM produced greater inflammatory reaction and stromal neovascularization in the rabbit cornea. A possible xenograft reaction may explain these differences. More studies are needed to further characterize these findings.