Effects of topical administration of 1% brinzolamide on intraocular pressure in clinically normal horses

Summary / Zusammenfassung
Purpose: To evaluate the effect of topical administration of 1% brinzolamide on intraocular pressure (IOP) in clinically normal horses.

Methods: Twenty healthy adult horses (16 stallions, 4 mares) with normal ocular findings were included in the study population. The IOP was measured 5 times daily (7 AM, 11 AM, 15 PM, 19 PM and 23 PM) over 10 days. On days 1 and 2 baseline values were established. On days 3 to 5 one eye of each horse was treated with 1% brinzolamide (Azopt®, Alcon Pharmaceuticals Ltd., Hunenberng, Switzerland) every 24 hours immediately following the 7 AM measurement. On days 6 to 8 the same eye was treated with 1% brinzolamide every 12 hours (7 AM and 19 PM). The contralateral eye remained untreated and served as a control. All IOP measurements were accomplished with rebound tonometry using the Tonovet® tonometer (Tiolat Ltd., Helsinki, Finland) according to specifications of the manufacturer. Statistical analysis of the data was performed using linear regression, repeated measures analysis, as well as descriptive statistics for determination of confidence intervals.

Results: In the baseline period IOP values among the 20 horses ranged from 16 to 36 mmHg, with a mean pretreatment IOP of 22.836 ± 3.269 mmHg for the right eye, and 22.764 ± 3.276 mmHg for the left eye. Mean IOP values under treatment with 1% brinzolamide were at 19.703 ± 3.176 mmHg during the 24-hour treatment period and at 17.840 ± 2.736 mmHg during the 12-hour treatment period in the treated eye.

A significant decrease in IOP compared to baseline values was noted in both, the 24-hour dosing period as well as during the 12-hour dosing period. A median reduction of 3.08 mmHg (15.37%) from baseline was achieved.

Conclusions: 1% brinzolamide significantly decreased IOP in a once daily and a twice daily treatment protocol in normotensive eyes. These findings suggest that 1% brinzolamide may be a valuable drug for treatment of equine glaucoma.

Publications / Publikationen
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