Glaucoma in Pet Rabbits

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In the literature

Yuschenkoff D, Graham J, Pumphrey SA. Diagnosis and treatment of glaucoma in client-owned rabbits (*Oryctolagus cuniculus*): 16 eyes from 11 rabbits (2008-2019). *J Exotic Pet Med*. 2020;34:67-71.

FROM THE PAGE ...

It has been anecdotally suggested that rabbits have a high prevalence of ophthalmologic disorders, and this species has been studied extensively as a model for human glaucoma. However, there is a paucity of information available regarding the etiology, diagnosis, and treatment of glaucoma in pet rabbits.

Glaucoma in pet rabbits can be primary (ie, congenital) or secondary to cataracts, uveitis, or other ocular disease. Clinical signs may include loss of vision, buphthalmia, corneal edema, elevated IOP, optic nerve head cupping, mydriasis, and cataract formation. Physical examination findings may include corneal disease, blepharitis, conjunctivitis, mydriasis, hyphema, and cataracts.

A thorough ophthalmologic examination, including IOP measurement, is the most important diagnostic test for glaucoma screening.

This study retrospectively reviewed records of pet rabbits diagnosed with glaucoma by a board-certified veterinary ophthalmologist or ophthalmology resident over an 11-year period. Glaucoma was diagnosed in 16 eyes of 11 rabbits. Median intraocular pressure (IOP) at diagnosis was 39 mm Hg (range, 26-55 mm Hg). Reference ranges for IOP in rabbits have been reported, with a mean IOP of 9.51 ± 2.62 mm Hg using a rebound tonometer and 15.44 ± 2.16 mm Hg using an applanation tonometer.[1]

Treatment of glaucoma in this study included topical medication (eg, dorzolamide, timolol) to reduce IOP. Ten eyes from 7 rabbits were refractory to initial medical management, although 2 showed progressive IOP reduction with continued use of topical medication. Of the remaining 5 rabbits that did not respond to initial medical management, 2 underwent unilateral enucleation and 3 received intravitreal gentamicin injections.

… TO YOUR PATIENTS

Key pearls to put into practice:

1. A thorough ophthalmologic examination, including IOP measurement, is the most important diagnostic test for glaucoma screening. A definitive diagnosis for glaucoma requires measurement of consistently elevated IOP in one or both eyes. Blood work (ie, CBC and serum chemistry profile) is useful for evaluating systemic health and determining whether a patient may be an acceptable candidate for surgery. Imaging (eg, skull radiography, computed tomography) is an excellent diagnostic tool for evaluating the skull, orbits, inner ear canals, and bullae.

2. Topical medication to reduce IOP is a good first treatment in rabbits with glaucoma. Monitoring for treatment response should include regular ophthalmologic examinations and IOP measurements.

3. Surgical enucleation may become necessary if the glaucoma is refractory to medical treatment. Enucleation can provide an improved quality of life for the rabbit through reduction or elimination of ocular pain.

4. Pain assessment and management is an important aspect of clinical care for rabbits with glaucoma. Because rabbits are a prey species, pain may be hard to assess. Pet owners should be informed how to monitor for pain, including observing for signs such as abnormal posture or decreased food intake and social interaction.

Reference

1. Pereira FQ, Bercht BS, Soares MG, da Mota MGB, Pigatto JAT. Comparison of a rebound and an applanation tonometer for measuring intraocular pressure in normal rabbits. *Vet Ophthalmol*. 2011;14(5):321-326.

Suggested Reading

Varga M. *Textbook of Rabbit Medicine*. 2nd ed. Butterworth Heinemann Elsevier; 2013.

Percy DH, Barthold SW. *Pathology of Laboratory Rodents and Rabbits*. 2nd ed. Iowa State University Press; 2001.