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Unilateral posterior lens luxation into the vitreous in a cat: A case report

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Abstract

An 18-month-old male cat weighing 4 kg was presented with a history of physical trauma to the right eye 20 days earlier. Ophthalmic examination revealed a buphthalmic, exophthalmic right eye with corneal oedema, exposure keratitis, corneal ulceration and episcleritis, with no menace response, pupillary light reflex and dazzle reflex. Intraocular pressure of the right eye was 88 mm Hg. Haematology revealed relative neutrophilia (85%) and thrombocytopenia (91,000 cells/cumm). Anterior chamber paracentesis yielded a clear fluid whose cytology showed a few erythrocytes and fibrin strands. Radiography and ocular ultrasonography were unremarkable. Computed tomography under general anaesthesia revealed the lens luxated into the posterior chamber, with axial and equatorial lengths of 28.2 mm and 20.7 mm in the right eye and 19.1 mm and 19.6 mm in the left eye. As intraocular pressure remained elevated despite initial management, trans-palpebral enucleation of the affected eye was performed, and the cat recovered uneventfully.

Keywords: Feline, posterior lens luxation, buphthalmos, computed tomography, secondary glaucoma

Introduction

Lens luxation is defined as displacement of the lens from its normal position in the eye, caused by disruption of the zonular or suspensory ligaments. Subluxation, generally an early stage of luxation, results from partial degeneration or destruction of the zonule in which lens motility is limited but the lens remains in the normal position ^[1, 2].

Lens luxations resulting from zonular damage are classified as congenital, primary, and secondary ^[3, 4, 5]. Those occurring as a result of trauma may be considered as a separate category ^[1, 6]. Some authorities classify luxations into four groups: senile luxation, terrier lens luxation/subluxation syndrome, traumatic luxation and secondary luxation ^[1, 7]. Congenital luxations may occur in isolation or alongside other congenital ocular defects ^[1, 5, 8].

This report describes the clinical presentation, diagnostic evaluation including computed tomography and surgical management of a case of unilateral posterior lens luxation into the vitreous in a cat following ocular trauma.

Case History

An 18-month-old male cat weighing 4 kg was referred to the ophthalmology division of the Madras Veterinary College Teaching Hospital with severe pain and enlargement of the right eye. The owners reported that the cat had sustained trauma from a fight with another cat prior to presentation. Clinical examination of the right eye revealed that it was buphthalmic and exophthalmic, with corneal oedema, exposure keratitis, corneal ulceration and episcleritis (Fig.1). Menace response, dazzle reflex and direct and consensual pupillary light reflexes were normal in the left eye but were absent in the right eye. Intraocular pressure, measured with a tonometer, was 88 mm Hg in the right eye and 15 mm Hg in the left eye.

Diagnostic Evaluation

Haematological examination revealed relative neutrophilia (85%) and thrombocytopenia (91,000 cells/cumm). Anterior chamber paracentesis was performed under local anaesthesia

with proparacaine gel; a clear fluid was aspirated, cytological examination of which revealed a few erythrocytes and fibrin strands. Thoracic radiography and ocular ultrasonography were within normal limits. Under general anaesthesia with xylazine and ketamine, computed tomography was performed with the animal in sternal recumbency, which revealed the lens luxated into the posterior chamber of the right eye (Fig.2). Axial and equatorial lengths were 28.2 mm and 20.7 mm, respectively, in the right eye and 19.1 mm and 19.6 mm, respectively, in the left eye (Fig.3).

Surgical Management

Initial management to control the markedly elevated intraocular pressure was attempted; however, as intraocular pressure remained elevated secondary to the luxated lens, trans-palpebral enucleation of the affected eye was elected.

The cat was administered ceftriaxone at a dose of 20 mg/kg body weight as an antibiotic. The cat was premedicated with xylazine at 1 mg/kg body weight, followed by induction of anaesthesia with ketamine at 10 mg/kg and diazepam at 0.2 mg/kg body weight, and maintenance with 2% isoflurane. The periorbital area was aseptically prepared for surgery, and a trans-palpebral approach was selected. Permanent tarsorrhaphy was performed. Two elliptical incisions, approximately 5 mm behind the lid margins, were joined near the medial and lateral canthus. Deep dissection was performed to identify the bulbar conjunctiva. Following transection of the medial and lateral canthal ligaments, forward traction on the eyelids facilitated dissection of the conjunctiva until the sclera was encountered at the limbus. Further dissection, globe removal and wound closure were performed, with the globe, conjunctival sac, nictitans and lid margins removed en bloc.

Postoperatively, tramadol hydrochloride was administered at 2 mg/kg body weight for 2 days, and ceftriaxone was administered at 15 mg/kg body weight for 5 days. Sutures were removed on the 10th postoperative day; however, mild purulent discharge was observed from the surgical wound (Fig.4). An antibiotic susceptibility test was performed using pus collected from the right eye, which revealed sensitivity to cefpodoxime and enrofloxacin. Accordingly, oral cefpodoxime syrup was prescribed for 10 days, following which the surgical wound healed uneventfully.



Fig 1: OD showing marked buphthalmos and exophthalmos with corneal oedema



Fig 3: Axial and equatorial dimensions of the OD and OS.



Fig 2: Posterior luxation of the OD lens into the vitreous chamber.



Fig 4: Permanent tarsorrhaphy.

Results and Discussion

Lens luxation occurs due to disruption of the zonular fibres and may be congenital, primary, secondary or traumatic [1, 2]. In the present case, the history of ocular trauma suggested traumatic posterior lens luxation. The markedly elevated IOP (88 mmHg) indicated severe secondary glaucoma associated with the luxated lens. Corneal oedema, ulceration, buphthalmos and absent ocular reflexes further indicated advanced ocular compromise. CT was valuable in confirming posterior displacement of the lens when direct visualization was limited by corneal oedema and inflammation. Retained or displaced lens material may result in uveitis, increased IOP and retinal complications [9, 10]. Ocular ultrasonography was avoided due to corneal ulcer. Although lens extraction may preserve the globe and vision in selected cases, the prognosis depends on the degree of pre-existing ocular damage. In the present case, persistent glaucoma and severe ocular pathology made globe-preserving surgery unsuitable.

Therefore, trans-palpebral enucleation was selected as a definitive treatment for the painful eye. The uneventful recovery highlights enucleation as an effective salvage procedure in advanced traumatic lens luxation.

Conclusion

Traumatic posterior lens luxation in cats can result in severe secondary glaucoma, ocular inflammation and irreversible visual impairment. Computed tomography was valuable in confirming the lens position when direct ocular examination was compromised. In cases with uncontrolled intraocular pressure, severe ocular damage and no visual potential, trans-palpebral enucleation provides an effective definitive treatment with a favourable postoperative outcome.

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Conflict of Interest

Not available

Financial Support

Not available

References

1. Curtis R. Lens luxation in the dog and cat. *Veterinary Clinics of North America: Small Animal Practice*. 1990;20(3):755-773.
2. Nasisse MP, Glover TL. Surgery for lens instability. *Veterinary Clinics of North America: Small Animal Practice*. 1997;27(5):1175-1192.
3. Willis MB, Barnett KC, Tempest WM. Genetic aspects of lens displacement in the Tibetan Terrier. *Veterinary Record*. 1979;104:409-412.
4. Glover TL, Davidson MG, Nasisse MP, Olivero DK. The intracapsular extraction of displaced lenses in dogs: a retrospective study of 57 cases (1984-1990). *Journal of the American Animal Hospital Association*. 1995;31(1):77-81.
5. Pizzirani S. Lens dislocation. In: *Proceedings of the 4th European FECAVA-SCIVAC Congress*. 1998. p. 343-344.
6. Lazarus JA, Pickett JP, Champagne ES. Primary lens luxation in the Chinese Shar Pei: clinical and hereditary characteristics. *Veterinary Ophthalmology*. 1998;1:101-107.
7. Nasisse MP, Davidson MG. Surgery of the lens. In: Gelatt KG, editor. *Veterinary ophthalmology*. Baltimore: Williams and Wilkins; 1999. p. 827-853.
8. Bedford PG. The aetiology of canine glaucoma. *Veterinary Record*. 1980;107:76-82.
9. Mulhern M, Kelly G, Barry P. Effects of posterior capsular disruption on the outcome of phacoemulsification surgery. *British Journal of Ophthalmology*. 1996;80:1133-1137.
10. Borne MJ, Tasman W, Regillo C, Malecha M, Sarin L. Outcomes of vitrectomy for retained lens fragments. *Ophthalmology*. 1996;103:971-976.

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