



ISSN: 2456-2912

VET 2024; 9(2): 702-704

© 2024 VET

www.veterinarypaper.com

Received: 18-01-2024

Accepted: 22-02-2024

Monika Rani

Department of Veterinary
Surgery and Radiology, Mumbai
Veterinary College, Parel,
Mumbai, Maharashtra, India

SD Tripathi

Department of Veterinary
Surgery and Radiology, Mumbai
Veterinary College, Parel,
Mumbai, Maharashtra, India

GS Khandekar

Department of Veterinary
Surgery and Radiology, Mumbai
Veterinary College, Parel,
Mumbai, Maharashtra, India

SV Gaikwad

Department of Veterinary
Surgery and Radiology, Mumbai
Veterinary College, Parel,
Mumbai, Maharashtra, India

Dishant Saini

Department of Veterinary
Surgery and Radiology, Mumbai
Veterinary College, Parel,
Mumbai, Maharashtra, India

Kunal Sharma

Department of Veterinary
Surgery and Radiology, Mumbai
Veterinary College, Parel,
Mumbai, Maharashtra, India

Simran Josan

Department of Veterinary
Surgery and Radiology, Mumbai
Veterinary College, Parel,
Mumbai, Maharashtra, India

Manika Jadhav

Department of Veterinary
Surgery and Radiology, Mumbai
Veterinary College, Parel,
Mumbai, Maharashtra, India

Corresponding Author:

Monika Rani

Department of Veterinary
Surgery and Radiology, Mumbai
Veterinary College, Parel,
Mumbai, Maharashtra, India

Surgical management of bilateral entropion in Persian cat: A case report

Monika Rani, SD Tripathi, GS Khandekar, SV Gaikwad, Dishant Saini, Kunal Sharma, Simran Josan and Manika Jadhav

Abstract

An intact, two-year-old male Persian cat presented with a chronic history of bilateral ocular irritation and purulent discharge persisting for 8 months. Clinical examination revealed epiphora, blepharospasm, photophobia, and severe bilateral entropion affecting the entire length of the lower eyelids. Additionally, conjunctivitis and purulent discharge were evident, with a considerable amount of skin on the outer surface of the lower eyelids in contact with the globe. The affected eyelid surfaces appeared whitened due to prolonged exposure to tears, and the cat exhibited marked blepharospasm, keeping its eyelids tightly closed. A Holtz-Celsus procedure was performed, involving resection of skin-muscle from the lower eyelids to correct the entropion. The cat recovered without complications.

Keywords: Entropion, Persian cat, Holtz-Celsus procedure

Introduction

Entropion, a common eyelid disorder in dogs, presents a unique challenge in feline medicine due to its infrequent occurrence in cats. The condition involves a misalignment of the eyelid margin, resulting in irritation of the cornea by eyelashes and eyelid hair. Untreated entropion leads to symptoms such as epiphora, blepharospasm, photophobia, conjunctivitis, and purulent discharge, along with potential complications like corneal vascularization, pigmentation, and ulceration (Helper, 1989; Slatter, 1990b; Gelatt, 1991b; Petersen-Jones, 1993) [3, 7, 2, 5].

Various etiologies contribute to feline entropion, including congenital, spastic, acquired, or cicatricial factors (Helper, 1989; Slatter, 1990b; Gelatt, 1991b) [3, 7, 2]. Despite the overall low prevalence of eyelid diseases in cats, primary entropion does manifest, particularly in the Persian breed (Slatter, 1990b; Nasisse, 1991) [7, 4]. Surgical intervention, typically employing the Holtz-Celsus technique, stands as the preferred treatment modality for feline entropion (Nasisse, 1991; Petersen-Jones, 1993) [4, 5]. Understanding the pathophysiological progression of primary entropion in cats and evaluating the efficacy of surgical correction underscore the significance of addressing this condition despite its rarity in feline patients. In this report, the surgical treatment of Persian cat with bilateral entropion is described.

Case history and observations

A two-year-old male Persian cat, weighing 4.5 kg, was presented to the surgical department of the Bai Sakarbai Dinshaw Petit Hospital for Animals due to a history of bilateral ocular irritation and purulent discharge persisting for 8 months. Ophthalmic examination revealed epiphora, blepharospasm, photophobia, and severe bilateral entropion affecting the entire length of the lower eyelids, accompanied by conjunctivitis and purulent discharge (fig. 1 and 2). Clinical examination revealed that cat's temperature, respiration rates and heart rate were normal. Haemato-biochemical analysis (Table: 1) were also normal. A significant excess of skin on the outer aspect of the involved eyelids was observed to be in contact with the globe, resulting in friction. The surface of the eyelids appeared whitened due to prolonged exposure to tears. The cat exhibited marked blepharospasm and maintained closed eyelids.

Table 1: Haematobiochemical parameter before surgery

Parameter	Reference range	Case
Hemoglobin (g/dL)	9.5 to 15	14
PCV (%)	29 to 45	36.7
TLC (10 ³ /cc)	5.5 to 19	99.90
Neutrophil count(%)	35 to 70	80
Lymphocyte count (%)	20 to 55	18
Total protein (g/dL)	5.9 to 8.5	6.02
Serum albumin (g/dL)	2.4-4.1	2.86

**Fig 1:** Cat with entropion in right eye**Fig 2:** Cat with entropion in left eye

Surgical treatment

The cat was premedicated with triflupromazine hydrochloride @ 2 mg/kg b.wt., ketamine hydrochloride @ 25 mg/kg b.wt. intramuscularly. General anaesthesia was induced with Propofol @ 4 mg/kg b.wt. The anaesthesia was maintained with 1/3 to 1/2 of induction dose of the above mixture intermittently as and when required. Gentamicin and meloxicam were administered @ 5 mg/kg slow intravenously and 0.2 mg/kg body weight subcutaneously respectively. As per routine procedure, the cat was prepared for aseptic surgery. Careful attention must be paid during eyelid clipping to prevent trauma, as the eyelid skin is highly sensitive. Clipping should be conducted gently, with the lid skin held taut to minimize snagging with the clippers. Trimming of eyelashes can be accomplished using small scissors coated with a thin layer of petrolatum or obstetric lubricant gel to prevent clipped lashes from falling onto the corneal surface. Subsequently, the conjunctival sac should be flushed with saline to eliminate hair and gross debris.

Ocular surfaces, the conjunctival sac, and the area beneath the third eyelid can then be irrigated with a 1:50 povidone iodine solution, utilizing a luer lock syringe and a loop cannula or soft catheter. Cellulose swabs or cotton buds saturated with a 1:50 povidone iodine solution are employed to cleanse fornices and lid margins. Gauze swabs soaked in a 1:10 (1%) povidone iodine solution are utilized to cleanse lids and periorbital regions, with care taken to work in the direction of hair growth to prevent the spread of loose hairs. The cat is positioned in a lateral reclining posture.

Using thumb forceps, the skin is tented in the region of the entropion to estimate the size of the elliptical excision required. An incision is then made along the length of the entropion, commencing 2 mm from the lid margin, and a crescent-shaped segment of skin is excised (see fig. 3 and 4). Closure of the wound is achieved using 3/0 nylon (polyamide) in a simple interrupted pattern, with a central suture followed by additional sutures placed 2 to 3 mm apart. Postoperatively, the cat receives intramuscular administration of antibiotics and analgesics for five days. Topically eye drops ciprofloxacin and carboxymethylcellulose thrice a day was advised. Use of an Elizabethan collar is recommended to avoid the chance of self-trauma. Daily wound dressing using povidone iodine and application of fly repellent spray was also advised.

The skin sutures were removed 10 days postoperatively.

**Fig 3:** Photograph showing an initial incision was made 2 mm from, but parallel to the lid margin, extending along the area of entropion plus 2–3 mm either side. A second curvilinear skin incision was made ventral to the first, usually 2–3 mm apart, but dependent on the extent of the entropion.**Fig 4:** Removed piece of skin crescent shaped

Discussion

The low prevalence of feline entropion is in accordance with the literature. Priester (1972) [6] described just one case of entropion from a total of 22 diagnosed eye diseases. Zajac and Szucs (1986) [8] reported 10 cases of entropion from a total of 145 cats presenting different eye conditions. Barnett and Crispin, 1998 considered anatomical entropion 'is most commonly seen in the Persian cat in which it may be present from an early age and usually involves the lower eyelid and particularly the medial aspect of the eyelid initially.' In this study, the clinical progression of both eyes was monitored at intervals of 1, 15, 30, 45, and 60 days post-surgery. Satisfactory clinical improvement was noted in the cat, confirmed 15 days post-surgery. Previous literature suggests a predisposition for primary entropion in the Persian breed (Slatter, 1990b; Nasisse, 1991) [7, 4]. The chronic blepharospasm and ocular irritation observed in this case were attributed to entropion, as there was no history of trauma or

evident abnormalities to account for the condition. Furthermore, entropion persisted despite topical anesthesia and relief of the blepharospastic component. The resulting painful ocular disease exacerbated spastic blepharospasm and ocular irritation.

The presence of breed-related feline entropion in this case supports the hypothesis of a predisposition for primary feline entropion in Persian cats. The Holtz-Celsus technique was easily performed and proved effective in correcting feline entropion, as evidenced by clinical improvement observed 15 days post-surgery.

Conclusion

In conclusion, the surgical management of bilateral entropion in the Persian cat presented a successful outcome, highlighting the effectiveness of tailored surgical techniques in resolving ophthalmic abnormalities. Through a comprehensive preoperative assessment, including clinical examination and ophthalmic diagnostics, the diagnosis of bilateral entropion was confirmed. The surgical correction, involving precise tissue repositioning and eyelid margin reconstruction, effectively restored normal eyelid anatomy and function. Postoperative monitoring revealed favorable outcomes, with the resolution of ocular discomfort and prevention of potential complications such as corneal irritation, ulceration, and secondary infections.

Acknowledgment

The author extends their support to the Department of Veterinary Pathology.

Conflict of interest

No potential conflict of interest relevant to this article was reported.

References

1. Barnett KC, Crispin SM. Feline Ophthalmology: an Atlas and Text. London: W.B. Saunders Co Ltd; c1998. p. 48.
2. Gelatt KN. Veterinary ophthalmology. 2nd ed. Philadelphia: Lea & Febiger. Chapter 6: The canine eyelids; c1991. p. 256-275.
3. Helper LC. Magrane's canine ophthalmology. 4th ed. Philadelphia: Lea & Febiger; Chapter 4: Diseases and surgery of the lids and lacrimal apparatus; c1989. p. 51-89.
4. Nasisse MP. Feline ophthalmology. In: Gelatt KN, editor. Veterinary ophthalmology. 2nd ed. Philadelphia: Lea & Febiger; c1991. p. 329-575.
5. Petersen-Jones SM. Conditions of the eyelid and nictitating membrane. In: Petersen-Jones SM, Crispin SM, editors. Manual of Small Animal Ophthalmology. London: British Small Animal Veterinary Association; c1993. p. 65-89.
6. Priester WA. Congenital ocular defects in cattle, horses, cats, and dogs. Journal of the American Veterinary Medical Association. 1972;160(11):1504-1511.
7. Slatter D. Fundamentals of Veterinary Ophthalmology. 2nd ed. Philadelphia: Saunders; Chapter 7: Eyelids; c1990. p. 147-203.
8. Zajec J, Szucs Z. Eye diseases seen in dogs and cats at the Budapest veterinary school clinics in 1984. Magyar-Allatorvosok-Lapja. 1986;41(2):116-119.