



Clinical features of cats with aqueous tear deficiency: a retrospective case series of 10 patients (17 eyes)

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Abstract

Objectives The aim of this study was to describe the clinical findings, diagnostic test results and response to therapy of cats with Schirmer tear test 1 (STT-1) values below the reference interval.

Methods The medical records of three institutions were searched for cats with ocular surface disease and STT-1 values <9 mm/min, confirmed at two or more separate visits.

Results Ten cats (17 eyes) were included. The mean \pm SD (range) age and STT-1 values in affected eye(s) were 6.1 \pm 5.7 (0.2–16) years and 2.4 \pm 3.1 (0–8) mm/min, respectively. Concurrent ocular surface disease was bilateral in 5/10 cats. Clinical signs included conjunctivitis (14/17 eyes), corneal ulceration (6/17 eyes), non-ulcerative keratitis (4/17 eyes), symblepharon (4/17 eyes), eosinophilic keratitis (3/17 eyes), corneal sequestrum (3/17 eyes), corneal fibrosis (2/17 eyes) and meibomitis (2/17 eyes). Management included topically applied lacrimomimetics, antiviral drugs, corticosteroids or immunomodulatory drugs; orally administered famciclovir; or surgical procedures, in various combinations. Response to therapy (defined as an increase in STT-1 value of ≥ 5 mm/min) was transient (seen at a single reassessment) in 65% of eyes and sustained (seen at ≥ 2 consecutive reassessments) in 18% of eyes.

Conclusions and relevance Clinical features seen in cats with low STT-1 values are described, although the association between aqueous deficiency and the reported ocular changes is unknown at this time. We encourage clinicians to assess the tear film in cats with ocular surface disease, and initiate therapy with lacrimomimetics if STT-1 values are repeatedly below normal. Such information will further define aqueous tear deficiency in cats, providing a better understanding of disease prevalence, pathogenesis and treatment.

Keywords: Dry eye; keratoconjunctivitis sicca; tear film; lacrimal; keratitis; conjunctivitis

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Introduction

Ocular surface diseases such as conjunctivitis, corneal ulceration, corneal sequestrum and eosinophilic keratitis are among the most common disorders recognized in cats with ophthalmic complaints.¹ Owing to the intimate relationship between the ocular surface and the tear film, it is possible that tear-film deficiency is a serious comorbidity in many of these clinical presentations, as is the case in dogs² and humans.³ In fact, a qualitative tear deficiency – or alteration in the mucin and/or lipid component of the tears – is often recognized in cats infected with feline herpesvirus-1,⁴ and those with spontaneous ulcerative keratitis,⁵ corneal sequestrum⁶ or conjunctivitis.⁷

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