



Cytological diagnosis of *Chlamydia felis*-associated conjunctivitis with unilateral proptosis in a young cat

Hesti Rahayu¹, Teguh Rianda^{1,*}, Gito Haputra², Putri Utami²

¹ Paw's Vet Padang, Small Animal Clinic, Padang, West Sumatra, Indonesia

² Platinum Vet Care, Small Animal Clinic, Bukittinggi, West Sumatra, Indonesia

ABSTRACT: Feline chlamydiosis is an important cause of conjunctivitis in young cats and may be difficult to distinguish clinically from other feline upper respiratory tract infections. This case report describes a 7-month-old male domestic cat who presented with unilateral mucopurulent ocular discharge, conjunctival hyperemia, nasal discharge, ocular scratching, and partial globe protrusion. The general physical examination results were unremarkable. Direct conjunctival cytology stained with Diff-Quick revealed marked neutrophilic inflammation and basophilic intracytoplasmic inclusion bodies within the conjunctival epithelial cells, supporting a presumptive diagnosis of *Chlamydia felis*-associated conjunctivitis. Differential diagnoses included feline herpesvirus-1, feline calicivirus, and *Mycoplasma* spp. The cat was treated with oral doxycycline, topical tetracycline ophthalmic ointment, and supportive ocular care. Clinical improvement was observed after therapy. This case highlights conjunctival cytology as a rapid and practical diagnostic aid for feline chlamydial conjunctivitis, particularly where molecular testing is not immediately available.

Keywords:

cat, conjunctival cytology, doxycycline, feline chlamydiosis, ocular proptosis

■ INTRODUCTION

Chlamydia felis is an obligate intracellular bacterium that infects the conjunctival epithelium of cats and causes acute, chronic, and recurrent conjunctivitis in kittens and young cats (Sykes 2005). Formerly classified as *Chlamydophila felis*, it is now known as *Chlamydia felis* (Borel *et al.* 2018). Affected cats may develop discharge, conjunctival hyperemia, chemosis, blepharospasm, and follicular conjunctivitis, and infected cats in multicat environments may contribute to pathogen transmission (Gruffydd-Jones *et al.* 2009).

Recognizing *C. felis* infection is difficult. Similar ocular signs occur in feline herpesvirus-1, feline calicivirus, *Mycoplasma* spp., and mixed respiratory tract infections (Sykes 2005). Polymerase chain reaction (PCR) of conjunctival swabs is preferred for confirmation because of its sensitivity and specificity (Sjödahl-Essén *et al.* 2008). However, PCR is not available in some first-line veterinary settings. Conjunctival cytology remains useful because intracytoplasmic chlamydial inclusion bodies in epithelial cells provide presumptive evidence that supports early therapeutic decisions (Hillström *et al.* 2012). This report describes the clinical presentation, cytological diagnosis, treatment, and outcomes in a young cat with *C. felis*-associated conjunctivitis complicated by unilateral proptosis.

■ CASE

Signalment and anamnesis: The owner of a 7-month-old male domestic cat, which was not neutered and weighs 1.5

kg, noted a week-long history of eye discharge, frequent itching, increasing swelling, and a decrease in appetite. Partial globe protrusion followed by persistent rubbing. No previous vaccination history was available for this patient.

Present status and clinical examination: On presentation, the cat was alert but uncomfortable with ocular handling. The rectal temperature was 39.2°C, respiratory rate was 40 breaths/min, and pulse rate was 152 beats/min. Mucous membranes were pink, capillary refill time was 2 s, and skin turgor was normal. Abnormalities included unilateral globe protrusion, conjunctival hyperemia, mucopurulent ocular discharge, periocular irritation, and mild nasal discharge.

Supporting examinations: Conjunctival samples were collected aseptically from the eye with a sterile swab. The samples were smeared on glass slides, air-dried, stained with Diff-Quick, and examined microscopically. Cytological examination revealed neutrophilic inflammation, conjunctival epithelial cells, and basophilic intracytoplasmic inclusion bodies, consistent with feline chlamydial conjunctivitis (Figure 1). Ancillary tests were not performed owing to clinical and facility limitations.

Differential diagnosis, diagnosis, and prognosis: Differential diagnoses included feline herpesvirus-1, feline

Received: 01-05-2026 | Revised: 03-06-2026 | Accepted: 10-06-2026



Copyright © 2026 Author(s). This is an Open Access article distributed under the terms of the Creative Commons Attribution ShareAlike 4.0 International License (<https://creativecommons.org/licenses/by-sa/4.0/>).

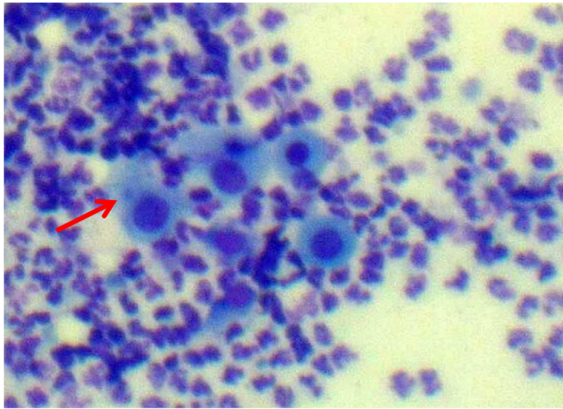


Figure 1. Cytological features of ocular exudate from a cat with presumptive *Chlamydia felis*-associated conjunctivitis. Diff-Quick stain, x400 magnification. Red arrows indicate basophilic intracytoplasmic inclusion bodies within conjunctival epithelial cells.

calicivirus, *Mycoplasma* spp. conjunctivitis, secondary bacterial conjunctivitis, and traumatic proptosis. Clinical signs and cytology supported *C. felis*-associated conjunctivitis with unilateral proptosis, which was likely worsened by self-trauma. Prognosis was favorable for improvement but guarded for ocular integrity and vision.

Therapy and clinical progression: The treatment consisted of oral doxycycline 5 mg/kg twice daily for 14 days, tetracycline ophthalmic ointment twice daily for 7 days, ocular cleaning, and prevention of further scratching. Follow-up examination revealed decreased ocular discharge, reduced conjunctival hyperemia, improved appetite, and reduced globe protrusion.

■ RESULTS AND DISCUSSION

The findings were compatible with feline chlamydial conjunctivitis. *C. felis* causes conjunctival disease rather than systemic illness, and cats remain stable despite ocular signs (Sykes 2005). Normal hydration, pink membranes, and no systemic abnormalities were observed. Nasal discharge may reflect involvement or co-infection and should be considered (Gruffydd-Jones *et al.* 2009). Basophilic intracytoplasmic inclusion bodies in conjunctival epithelial cells are key findings. Chlamydial inclusions can be detected in conjunctival smears during infection (Raskin & Meyer 2010). When PCR is unavailable, treatment can be justified; however, cytology remains presumptive. PCR is recommended for chronic, recurrent, subclinical, or multicat cases (Sjödahl-Essén *et al.* 2008).

Unilateral globe protrusion in this cat should be interpreted cautiously. Proptosis is not a typical primary manifestation of *C. felis* infection and is more commonly associated with trauma, orbital disease, and increased retrobulbar pressure (Gelatt *et al.* 2021). The owner observed persistent scratching before protrusion, suggesting that chlamydial conjunctival irritation promoted rubbing and self-trauma.

Doxycycline is recommended for feline chlamydiosis because tetracyclines are effective against *Chlamydia* spp., and systemic therapy is more reliable than topical therapy

alone (Gruffydd-Jones *et al.* 2009). The 14-day regimen was associated with improvement, but guidelines recommend longer treatment, often approximately four weeks, to reduce recurrence and transmission risk in multi-cat settings (Gruffydd-Jones *et al.* 2009). Topical tetracycline may reduce ocular discharge but should be adjunctive. A limitation of this study is the absence of PCR confirmation and ophthalmic evaluation. Nevertheless, cytological findings, clinical responses, and chronology support conjunctival cytology for rapid decision-making in primary veterinary practice.

■ CONCLUSION

Conjunctival cytology suggested *C. felis*-associated conjunctivitis in a cat with unilateral ocular proptosis. Molecular confirmation remains preferable, but cytology can support treatment when PCR is unavailable, and proptosis should be assessed as a traumatic complication.

■ AUTHOR INFORMATION

Corresponding Author

*TR: teguhrianda1493@gmail.com

Paw's Vet Padang, Jln. Aur Duri No. 79, Padang Timur, Kota Padang, West Sumatra 25123, INDONESIA.

■ ETHICS AND DECLARATIONS

Conflict of interest: The authors declare no conflict of interest.

Funding: This case report received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Data availability: All data are included within the article.

■ REFERENCES

- Borel N, Polkinghorne A, Pospischil A. 2018. A review on chlamydial diseases in animals: still a challenge for pathologists?. *Veterinary Pathology*. 55(3):374-390.
- Gelatt KN, Ben-Shlomo G, Gilger BC, Hendrix DV, Kern TJ, Plummer CE, editors. 2021. *Veterinary ophthalmology*. John Wiley & Sons.
- Gruffydd-Jones T, Addie D, Belák S, Boucraut-Baralon C, Egberink H, Frymus T, Hartmann K, Hosie MJ, Lloret A, Lutz H, Marsilio F. 2009. *Chlamydia felis* infection: ABCD guidelines on prevention and management. *Journal of Feline Medicine and Surgery*. 11(7):605-609.
- Hillström A, Tvedten H, Källberg M, Hanås S, Lindhe A, Holst BS. 2012. Evaluation of cytologic findings in feline conjunctivitis. *Veterinary Clinical Pathology*. 41(2):283-290.
- Raskin RE, Meyer DJ. 2010. *Canine and Feline Cytology: A Color Atlas and Interpretation Guide*. 2nd ed. St. Louis: Saunders Elsevier.
- Sjödahl-Essén T, Tidholm A, Thorén P, Persson-Wadman A, Bölske G, Aspán A, Berndtsson LT. 2008. Evaluation of different sampling methods and results of real-time PCR for detection of feline herpes virus-1, *Chlamydia felis* and *Mycoplasma felis* in cats. *Veterinary Ophthalmology*. 11(6):375-380.
- Sykes JE. 2005. Feline chlamydiosis. *Clinical Techniques in Small Animal Practice*. 20(2):129-134.
- von Bomhard W, Polkinghorne A, Lu ZH, Vaughan L, Vöggtlin A, Zimmermann DR, Spiess B, Pospischil A. 2003. Detection of novel chlamydiae in cats with ocular disease. *American Journal of Veterinary Research*. 64(11):1421-1428.
- Wasissa M, Lestari FB, Nururrozi A, Tjahajati I, Indarjulianto S, Salasia SI. 2021. Investigation of chlamydia infection from naturally infected cats. *Journal of Veterinary Science*. 22(6):e67.