Clinical Presentation, Treatment and Outcome in Horses with Chemical Keratitis (2015 – 2025)

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Introduction

- Cornea plays a critical role as a primary barrier against physical and microbial threats, but its delicate nature makes it susceptible to injuries. [1]
- Among these injuries, chemical keratitis (CK) has thoroughly been described in humans,[2, 3] while literature in veterinary medicine, including horses, is lacking.

Objectives

- To identify the prevalence of chemical keratitis in horses in a hospital population in the UK.
- Describe the presenting findings, ophthalmic examination, management and outcomes associated with chemical keratitis in horses.

Methods

- Retrospective review of records.
- Horses diagnosed with CK between 2015 – 2025.
- History, presenting complaint, ophthalmic examination findings, management, duration until resolution and outcome were reviewed.
- Descriptive statistics were used.

Results

Prevalence and Presentation

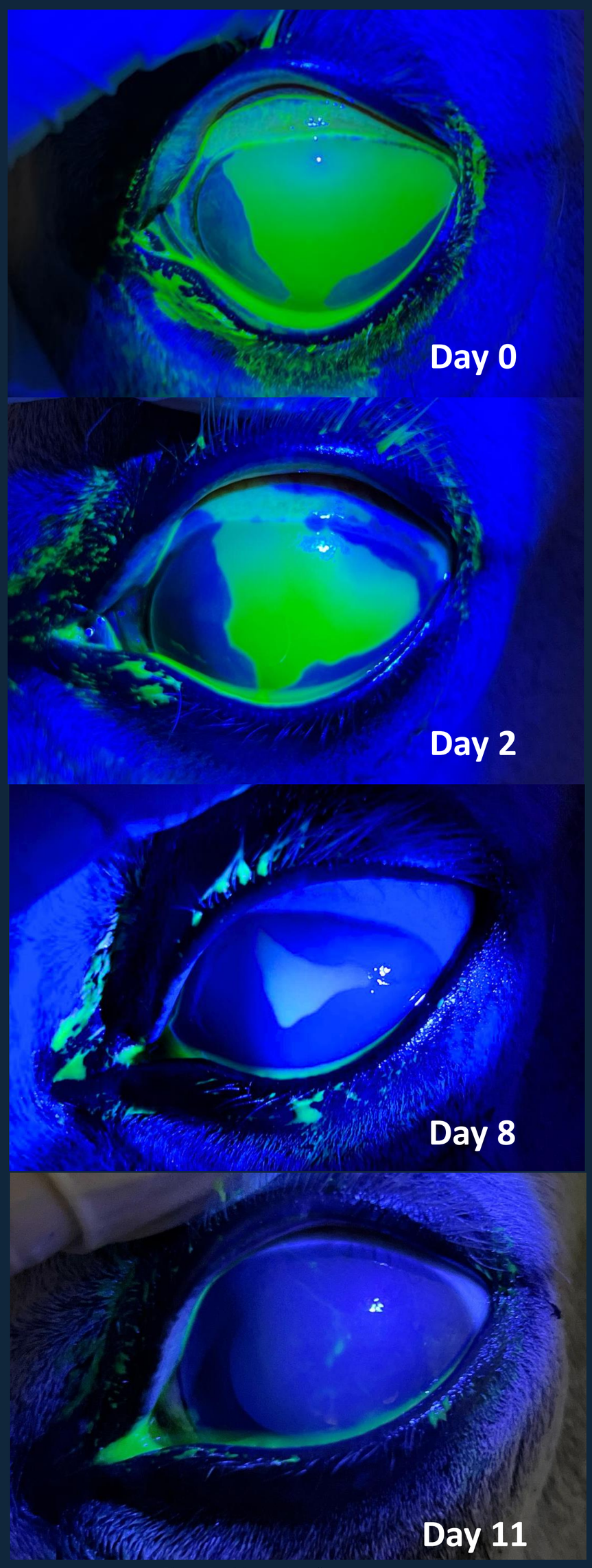
- Eight cases – prevalence 3.1%
- All cases had a fluorescein positive superficial stroma corneal ulcer (8/8).
- The cause of the CK was due to iatrogenic corneal contact with chlorhexidine and/or surgical spirit (7/8) or anthelmintic paste (1/8).
- Blepharospasm (4/4), chemosis (3/4), corneal oedema (2/4) and third iris prolapse (1/4).
  Incomplete data on ophthalmic examination findings for 4 cases.

Treatments

- Median duration of treatment was 8.5 days (range 3 -15 days).
- Topical Treatments:
  - Topical antimicrobials (7/8)
  - Topical autologous serum (3/8)
- Systemic analgesia (8/8)
  - Flunixin meglumine (5/8)
  - Phenylbutazone (2/8)
  - Suxibuzone (1/8)
  - Paracetamol (3/8)
- Temporary tarsorrhaphy (1/8)

Outcomes

- All cases (8/8) resolved with treatment with no corneal scarring or opacities remaining.



Chemical keratitis from one case and its response to management.

Conclusions

- Horses with CK develop large superficial stromal corneal ulcers.
- Early recognition and treatment with topical antimicrobials and analgesia provides an excellent prognosis.
- Care must be taken when using chlorhexidine and surgical spirit in general anesthesia and when administering oral medications to horses.
- This information can help veterinarians recognise the risks, management of and prognosis for CK in horses.

Limitations

- Retrospective study
- Missing data

References

[1] Plummer C.E. (2017), Corneal Response to Injury and Infection in the Horse, *Veterinary Clinics of North America: Equine Practice, 33, 439-462*

[2] Singh P. et al. (2013), Ocular Chemical Injuries and their Management, *Oman Journal of Ophthalmology, Vol 6, No 2*

[3] Kuckelkorn R. et al (2002), Emergency Treatment of Chemical and Thermal Eye Burns, *Acta Ophtalmol. Scand, 80, 4-10*