Ophthalmology Snapshot

Nalinee Tuntivanich

History

A 4 year-old female Shih Tzu had a scratch in the right eye from another dog while having a fight at home. She has been prescribed with triple antibiotics eye drop every 2-3 hours. A collar had been on at all times to prevent self trauma. Blepharospasm and lacrimation still remained at one week after treatment. The dog was then referred to the Small Animal Teaching Hospital, Faculty of Veterinary Science, Chulalongkorn University.

Ophthalmic examinations revealed negative menace response; positive dazzle reflex and negative pupillary light response (constricted positioning). STT I was 16 mm wetness. Conjunctival inflammation and corneal opacity were obvious. Solid opaque material was observed at the bottom of the anterior chamber.

The dog recovered well from treatment. Menace response returned by day three while solid opaque material disappeared by day 5.

Figure 1 Ophthalmic appearance of the right eye of a female Shih Tzu.

(For better quality, figures can be viewed in the TJVM website)

Question

1. What is "the solid opaque material" in the anterior chamber?
2. How could you treat "the solid opaque material"?

Please turn to the next page for answers …….

Ophthalmology Clinic, Department of Veterinary Surgery, Faculty of Veterinary Science, Chulalongkorn University, Bangkok 10330, Thailand

Answer

1. What is "the solid opaque material" in the anterior chamber?
   Answer: Hypopyon

2. How could you treat "the solid opaque material"?
   Answer: Anti-inflammatory agents
   Parasympatholytic agents
   Antimicrobial agents

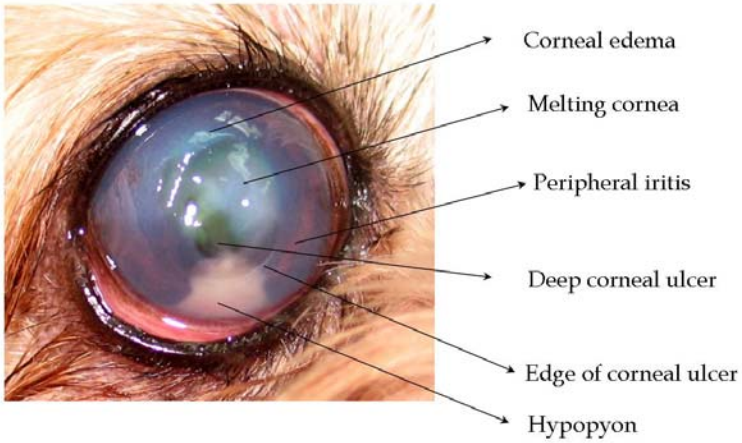

Figure 2 Photograph of the right eye revealing various ophthalmic lesions as described.

Comments

Hypopyon (accumulation of cells in the anterior chamber) can occur following anterior uveitis. In this case, hypopyon is secondary to deep lesion of the cornea. Since uveitis leads to blindness, immediate treatment in combination with cause elimination is advised.

During acute phase of ocular inflammatory response, diverse types of exudate could be built up in the anterior chamber. Different than serous exudate, purulent exudate composed of polymorphonuclear leukocytes and necrotic cells can demolish blood-aqueous-barrier causing increasing inflammation. If inflammation is profound, rapid diagnosis or appropriate treatment is not accomplished; permanent damage of the vascular structure of the anterior uvea will lead to adverse subsequent ocular abnormalities.

Systemic corticosteroid is the major drug of choice to treat anterior uveitis. Contraindications for the use of it should be considered. Topical corticosteroid should be instituted except in the case with corneal ulcer (as this one). Non-steroidal anti-inflammatory drugs (NSAID) therapy is another alternative choice of treatment. Topical NSAID may be used either alone or in combination with topical corticosteroid. However, conjunction of systemic therapy is not recommended. If hyphema is noticed, systemic NSAID should be avoided.

Parasympatholytic agent provides good benefit in the therapy of anterior uveitis. It not only dilates the pupil to prevent posterior synechia formation, but also paralyzes iris and ciliary body musculature to reduce ocular pain.

Topical antibiotics should be applied in this case because bacterial infection can occur concurrently with anterior uveitis. Systemic antibiotic therapy is also indicated for prophylaxis against secondary bacterial infection.

References

Blouin, P. 1984. Uveitis in dogs and cats: Causes, diagnosis and treatment. Can Vet J. 25(8): 315-323.

Hendrix, D.V.H. 2007. Diseases and surgery of the canine anterior uvea. In: Veterinary Ophthalmology. 4th ed. K.N. Gelatt (ed). Ames: Blackwell Publishing: 818-829.