

Ophthalmology Snapshot

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History

A two-year old, male Chihuahua was presented at the Ophthalmology Clinic, Animal Teaching Hospital, Faculty of Veterinary Science, Chulalongkorn University. The owner had chief complaint about epiphora and tear stain from the inside corner of both eyes. It had occurred since the dog was young and continued until present. He had previously been treated by a local veterinarian.

However the success has not been achieved.

Ophthalmic examinations revealed positive menace responses, as well as dazzle reflexes and pupillary light responses. Schirmer tear test I values were 12 and 16 mm wetness on the right and left eye, respectively. Marked tear staining was evident (Fig 1), in association with skin atopy around eyeballs, nose and lips. There was mild conjunctivitis. Fluorescein staining was negative on both eyes. No ocular pain was involved.



Figure 1 Photograph of the dog representing tear staining.
(For better quality of photographs, please visit the TJVM website)

Question

What kind of further ophthalmic examination should be required for this case?

Please turn to next page for the answer.

Answer

Jones test or fluorescein passage test



Figure 2 Photograph of a positive Jones test result in the left nostril of a dog.

Comments

To investigate lacrimal drainage disorder, Jones test or fluorescein passage test should be performed. This is a test to assess nasolacrimal apparatus patency. Positive result (Fig 2) is evident by the appearance of fluorescein stain at the ipsilateral nostril following its application to the ipsilateral corneal surface. The range of normal time from application of fluorescein dye to appearance of fluorescein stain at the nostril varies. It highly depends on length of snout and formation of skull in each breed, as well as preparation of fluorescein stain (strip or drop).

Procedure of Jones test:

Instill one drop of fluorescein into conjunctival sac (each eye is tested).

Press at the inferior lacrimal meatus.

Nasolacrimal apparatus is patent when fluorescein dye appears at the same side of nostril as that of conjunctival sac.

If the dye is not present, wash the excess fluorescein dye from the conjunctival sac.

If the dye is then detected, it indicates functional obstruction of nasolacrimal duct.

If the dye is still not present, observation of lacrimal puncta is recommended.

References

- Miller PE 2013. Lacrimal system. In: Slatter's Fundamentals of Veterinary Ophthalmology. 5th ed. Maggs DJ, Miller PE and Ofri R (ed) St. Louis: Elsevier 168-170.
- Austen DP 2015. "Lacrimal dilation and syringing." [Online.] Available:<http://www.academy.org.uk>. Accessed November 15, 2015.