Ophthalmology Snapshot

Nalinee Tuntivanich

History

A strayed kitten of unknown age was rescued a month ago. Her right eye initially had ocular pain. She had been prescribed with antibiotic eye ointment twice daily from a veterinarian at private clinic. Two weeks afterward, the eye began to enlarge. The veterinarian then suggested the right eye to be removed. The owner would like to have second opinion before making a final decision. The cat was therefore presented to the Ophthalmology Clinic, Animal Teaching Hospital, Faculty of Veterinary Science, Chulalongkorn University.

Figure 1 Photographs of the cat; front view (A) and side view (B) revealing prominent right eyeball. (For better quality of photographs, please visit the TJVM website)

Question

What are important further diagnoses you would recommend for the cat? (Give the reason)

Please turn to next page for the answer.

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

Answer

Digital palpation
Tonometry
Ultrasonography

Figure 2 Photographs of the right eye revealing extremely enlarged eyeball, severe chemosis and conjunctival hemorrhage

Comments

Dogs have semi (incomplete) bony orbits that are located anteriorly. Because of their location, dogs have greater binocular vision and depth perception as compared to other species. When the eyeball is enlarged, there are three major possible characteristics; buphthalmos, exophthalmos and proptosis.

Proptosis is the prolapsed of the globe that occurs after a severe damage of extraocular structures. Digital palpation is the simple method to examine location of the eyeball.

Bupthalmos is the enlarged eyeball associated with elevated intraocular pressure (IOP). Tonometry is a valuable test to measure the IOP. It is an essential method for glaucoma diagnosis.

Exophthalmos is the enlarged eyeball associated with space-occupying lesion behind it. Ultrasonography with high-frequency sound waves is commonly used to examine contents behind opaque eyes.

Following tonometry, IOP of the right eye was 54 mmHg whereas of the left eye was 11 mmHg. Her right palpebral fissure could not completely be closed. As a result, ocular surface of the kitten's right eye was severely damaged. Displaced cataractous lens was noticed in the anterior chamber. According to highly elevated IOP together with structural change of intraocular structures, secondary glaucoma was diagnosed in this case. Enucleation was therefore recommended.

Reference

Slatter D 2001. Glaucoma. In: Slatter's Fudamentals of Veterinary Ophthalmology. 3th ed. Philadelphia: W.B. Saunders. 361-367 pp.

Johnsen DA, Magg DJ and Kass PH 2006. Evaluation of risk factors for development of secondary glaucoma in dogs: 156 cases (1999-2004). J Am Vet Med Assoc. 229(8): 1270-1274.