



Today, with pets living longer, incidences of eye problems in older dogs are increasing. Cataracts are one of the most common of these problems. Pet owners often notice a murkiness in the pupils of their dog's eyes, which is often accompanied by a change in the animal's behavior at home or when out walking. Unlike diseases that exhibit rapid visual changes such as glaucoma or retinal detachment, in the case of cataracts, the progression of symptoms is generally quite slow. Accordingly, abnormalities in the dog's behavior also tend to appear slowly. In this talk, I'd like to focus on and explain about cataracts in dogs.

[Slide 1] "Cataracts" is a collective term for the clouding of the eye's crystalline lens due to any of a number of causes (Fig. 1). The crystalline lens performs the same function as the lens in a camera. If the lens is not clear, light ceases to pass through efficiently. This causes a diffused reflection inside the eye, which is perceived as a dazzling light and prevents the eye's distance accommodation from functioning correctly. There is a wide range of variation among cataract symptoms, and the degree of visual difficulty experienced by an individual animal will vary depending on its age and temperament as well as on environmental factors. In terms of general behavior, the animal may become more cautious and it may find it impossible to walk up or down stairs. In many cases there are differences between daytime and nighttime behavior.

In the case of cataracts, differentiation is made according to the age of onset, the site of occurrence, the rate of progress and the diagnosis provided (example: juvenile immature cortex cataracts, etc.) (Fig. 1). In dogs, geriatric cataracts caused in much the same way as in humans are observed, while the most commonly observed cases of genetically linked

cataracts tend to appear at a young age. In general, juvenile cataracts progress very rapidly and they are often associated with the eye infection known as uveitis, which can lead to a number of complications including glaucoma, retinal detachment, etc. On the other hand, although the progress of the disease is generally slow in older dogs (over 6 years of age), sometimes cataracts progress rapidly in older animals too. In many cases, cataracts in elderly dogs have been observed together with non-hereditary systemic diseases such as diabetes. And apart from diabetes, endocrine disease, liver or kidney disease and infectious diseases can also lead to cataracts. Moreover, cataracts are often observed to occur in the wake of other eye diseases such as retinal degeneration (a disease in which the retina becomes dysfunctional due to atrophy), etc. Accordingly, when cataracts are found in older dogs, it is necessary to carry out a general examination of the animal in addition to an eye examination.

[Slide 2] Cataracts in animals can be divided into two types—"cataracts that require treatment" and "cataracts that do not require treatment". The latter type in particular is referred to medically as "nuclear sclerosis", which means clouding of the ocular lens due to age-related changes. In nuclear sclerosis, the entire lens becomes hazy in time, but unlike in the case of genuine cataracts, this does not usually affect the dog's vision, so it is rarely treated as an eye disease.

When pet owners notice that their dog has cataracts, they are recommended to visit a family veterinarian as soon as they can. It is possible to perform a sufficient examination at an ordinary veterinary hospital, but if that hospital doesn't have special equipment for conducting ophthalmic examinations, the pet owner will need to be introduced to a specialized hospital.

There is no “medical therapy” that can restore the transparency of a lens once it has become cloudy. At present, the only way to improve vision compromised by such clouding is by means of surgery. In the case of animals, as I mentioned earlier, there are juvenile cataracts that have a genetic component and adult cataracts that are the result of what I call “rust”, which causes progressive deterioration in the course of systemic illness and aging. This “rust” is the result of the action of active oxygen, also known as free radical action, which promotes eye damage, particularly to the lens and retina. A variety of supplements have been developed and are on sale as animal-use drugs for use against this “rust”. Also, the “rust” is considered to be controllable to a certain extent using eye-drops. However, it is important to administer these things on the understanding that they will not cure existing cataracts but will merely slow the progress of the disease. [Slide 3]

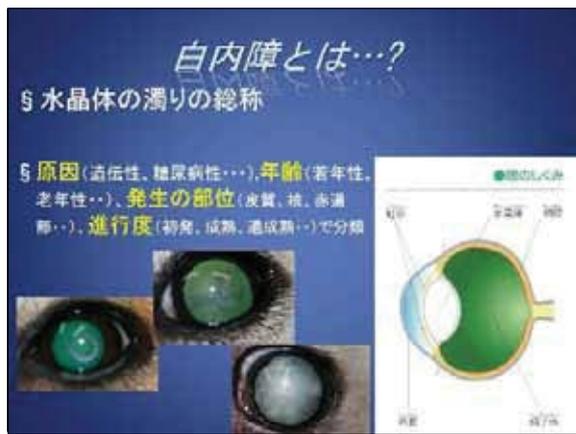
In considering cataract surgery, first of all it is necessary to examine whether improved vision can be achieved by means of surgery or not. For instance, in the case that the animal already exhibits retinal detachment or a disease such as retinal degeneration, unfortunately, surgery is not a valid option. Unlike with human patients, intraocular surgery cannot be performed on animals under local anesthetic. Instead, general anesthetic is required, so it is also necessary to check that the animal will be able to tolerate general anesthetic by conducting a systematic examination.

The actual surgery is performed in the same way as on human patients. Nowadays, cataract surgery can be performed by cutting into the upper side of the eye, making an incision a little over 3mm long at the boundary between the white sclera and the iris. The method employed is to break up and suck out the cataract using an ultrasonic instrument. After the cloudy matter is removed, an artificial lens (IOL) (Slide 4) especially for dog use is inserted into the crystalline lens, then the incision is sewn up and the operation completed. In recent years, the procedure for inserting an artificial lens has become routine and the animal’s vision after surgery is usually dramatically improved

(Slide 5). After surgery, the dog must continue to receive eye-drops for two or three months, and as soon as the inflammation clears up and the eye pressure becomes stable, the animal can go out for walks and play actively in the same way as before.

Finally, the causes of human and canine cataracts differ. In dogs, the disease progresses swiftly, so when you notice the presence of clouding in your pet’s eye, it is important to consult your family vet. In addition, it is important to pay attention to an elderly dog to see if it is exhibiting any other changes apart from eye symptoms, because in many cases cataracts in older dogs are related to systemic disease. (For example, the dog may exhibit such symptoms as constant hunger, drinking abnormally large amounts of water, increased urination, extensive hair loss, or significant weight variation.)

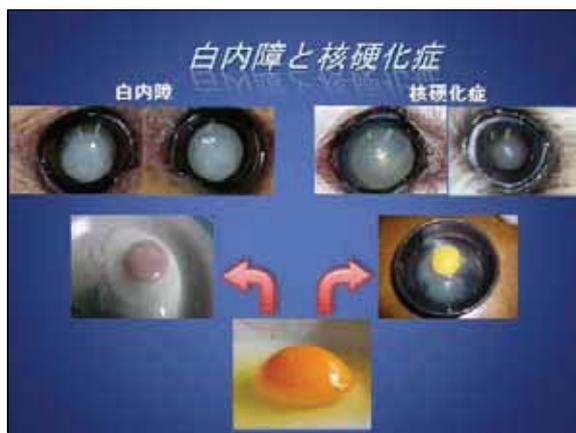
There are no eye-drops or medicinal drinks that can heal a clouded iris cleanly. When cataracts are advanced and visual disability is observed, it is vital for the dog to receive treatment quickly. As a dog owner, if you sense that there is something wrong with your pet, please consult a veterinarian as soon as possible. If cataract surgery cannot be performed in that particular hospital, obtain an introduction to a different veterinary hospital that can perform such surgery. Since the success rate for cataract surgery performed on dogs is now very high, I would recommend that you consult a veterinarian positively.



【Slide 1】



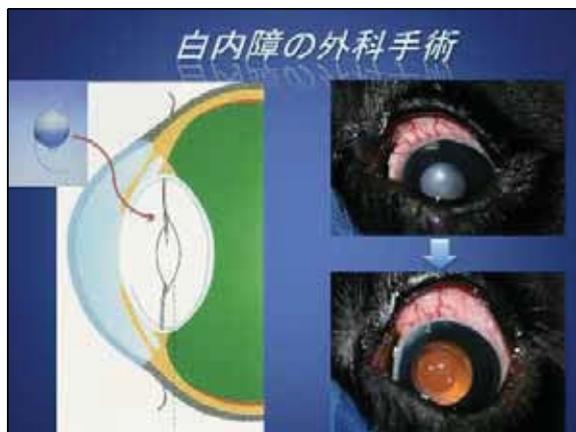
【Slide 5】



【Slide 2】



【Slide 6】



【Slide 3】



【Slide 4】