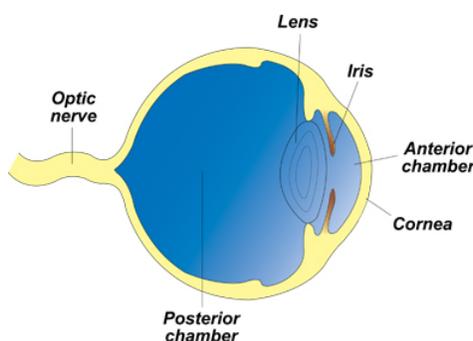


Tumors of the Internal Eye Structures

Structure of the eye



These notes are provided to help you understand the diagnosis or possible diagnosis of cancer in your pet. For general information on cancer in pets ask for our handout “What is Cancer”. Your veterinarian may suggest certain tests to help confirm or eliminate diagnosis, and to help assess treatment options and likely outcomes. Because individual situations and responses vary, and because cancers often behave unpredictably, science can only give us a guide. However, information and understanding for tumors in animals is improving all the time.

We understand that this can be a very worrying time. We apologize for the need to use some technical language. If you have any questions please do not hesitate to ask us.

What are these tumors?

These are tumors arising from structures within the eye. They tend to result in an increase in the internal pressure (glaucoma), which then leads to blindness. There is sometimes bleeding within the eye, swelling and pain.

The most common eye tumors originate from the melanin-producing cells (these are discussed in a separate handout). The second most common group affects the iris and ciliary body (anterior uveal tract) causing non-cancerous iridociliary cysts, benign adenomas and malignant adenocarcinomas. There are rare tumors of the nervous tissue in the eye and, in cats, a malignant tumor that occurs as long as ten years following an injury to the lens (‘feline primary ocular sarcoma’ or ‘post-traumatic sarcoma’). Blue-eyed dogs also have a specific benign tumor of the iris (spindle cell tumor). Some tumors originate elsewhere in the body but settle and grow in the eye as metastases. The most common of these are tumors of lymphoid cells (lymphosarcoma or lymphoma).

What do we know about the cause?

The reason why a particular pet may develop this, or any cancer, is not straightforward. Cancer is often seemingly the culmination of a series of circumstances that come together for the unfortunate individual.

Feline primary ocular sarcoma follows injury to the eye of cats and the spindle cell tumor of blue-eyed dogs has genetic factors implicated. Little is known about causes of the other tumors.

Why has my pet developed this cancer?

Some animals have a greater tendency (genetic susceptibility) to cancer. Some breeds have far more cancers than others, often of specific types. The more divisions a cell undergoes, the more probable is a mutation so cancer is more common in older animals but a few rare tumors are developmental problems so they occur in young animals.

Are these common tumors?

These are all rare tumors. Iridociliary cysts and tumors are the most common of this group in dogs, but in cats they are very rare. Lymphosarcomas originating from lymphoid cells are most common in cats.

How will these cancers affect my pet?

Even benign tumors cause glaucoma, which causes loss of sight; so iridociliary cancers are clinically important even when small in size. They are often suspected even when direct observation of the tumor is impossible because they cause glaucoma or intra-ocular haemorrhage. Other tumors form nodules and swellings or opacities, that can be seen by examination with an ophthalmoscope. Small tumors may show no clinical disease at the time of diagnosis but others cause uveitis (inflammation), glaucoma (increased ocular pressure), hemorrhage or optic nerve compression. All these will result in blindness. The feline post-traumatic sarcoma is highly malignant and spreads all round the eye and into adjacent tissues causing opacity of the eye, swelling, pain and blindness.

How are these cancers diagnosed?

Clinically, cancer may be suspected by swelling or opacity or redness inside the eye. Ultrasonography may help to delineate the masses when they are not visible. Accurate diagnosis of the tumor and prediction of behavior (prognosis) rely on microscopic examination of tissue (histopathology). This is done at a specialized laboratory by a veterinary pathologist.



Ultrasound



What types of treatment are available?

Unfortunately, surgical removal of these tumors involves removal of the eye.

Can these cancers disappear without treatment?

Cancer very rarely disappears without treatment. Very occasionally, spontaneous loss of blood supply to the cancer can make it die but the dead tissue will still need surgical removal. The body's immune system is not effective in causing these tumors to regress.

How can I nurse my pet?

After surgery, an “Elizabethan collar” may be provided to prevent your pet rubbing his or her eye and interfering with the operation site, which needs to be kept clean. Any loss of stitches or significant swelling or bleeding should be reported to your veterinarian.



Specific treatment may include eye drops and ointments with antibiotics and anti-inflammatory drugs.

If you require additional advice on post-surgical care, please ask.

How will I know how the cancer will behave?

Histopathology will give your veterinarian the diagnosis that helps to indicate how it is likely to behave. The veterinary pathologist usually adds a prognosis that describes the probability of local recurrence or metastasis (distant spread).

How will I know if the cancer is permanently cured?

‘Cured’ has to be a guarded term in dealing with any cancer.

Almost all of these tumors (including iridociliary cysts and tumors and rare tumors such as medulloepithelioma and iridal spindle cell tumor of blue eyed dogs) can be cured by removal of the eye.

Post-traumatic sarcoma of cats is highly malignant and the tumors recur and spread into the optic nerve and other adjacent tissues with possible distant metastasis. Surgical cure cannot be guaranteed.

Tumors that have spread (metastasized) from elsewhere in the body usually indicate widespread, advanced disease and, sadly, cure is not possible. Among these are lymphosarcoma and hemangiosarcoma.

Are there any risks to my family or other pets?

No, these are not infectious tumors and are not transmitted from pet to pet or from pets to people.

*This client information sheet is based on material written by Joan Rest, BVSc, PhD, MRCPPath, MRCVS.
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