

Health and welfare information about your cat from Vetlexicon Felis.



Brain tumor or cancer

Brain tumors in cats are unfortunately as common as they are in people. Brain tumors can be devastating diseases and sadly cannot be cured in most animals. At present the only options for treatment are to improve the animals quality of life and help them to live for as long as possible. Unfortunately all brain tumors will eventually result in the death of your pet.

What is a brain tumor?

A tumor (or cancer) is a growth of abnormal cells within a body tissue. Cancers in the brain can develop from brain cells (primary brain tumor) that have started to grow uncontrollable or the tumor may be the result of spread of a tumor elsewhere in the body. Common primary brain tumors include cancer arising from cells forming the lining of the surface of the brain (meningioma), the lining of ventricle (ependymoma), the choroid plexus (choroid plexus tumor) or the brain parenchyma itself (glioma). Fragments of cancers elsewhere in the body can break off from their primary source and travel in the blood to the brain where they settle and start to grow. The signs seen in animals with brain tumors are usually the result of the cancer growing and causing pressure on the surrounding normal brain tissue. This causes

brain damage and inflammation.

What are the signs of a brain tumor?

Brain tumors can cause a wide variety of clinical signs which vary according to the part of the brain that is affected. Often the first sign to develop is seizures (fits). Generalized seizures are often very severe causing the cat to collapse, salivate profusely, thrash around and occasionally void its bowels and bladder. Other forms of seizures (called partial seizures) are less severe and can be characterized by a variety of signs (facial or limb twitching, salivation, loss of strength on one side of the body, loss of balance, altered mentation or behavior...). Unfortunately, these seizures are likely to be permanent. Other signs commonly seen are blindness, changes in the cats personality, profound lethargy, circling and disorientation. Some people may notice that their cat appears to have a headache. As with seizures, some of these signs may be permanent whatever the treatment course that you decide upon.

How will my vet know that my cat has a brain tumor?

Your vet may suspect that your pet has a brain tumor because of the signs you describe. The brain cannot be seen on standard X-rays so special diagnostic tests are needed to allow your vet to take pictures of your pets brain. Diagnosis of brain tumors is based on imaging the brain either with a CT-scan or an MRI-scan. Although these tests are very good for detecting the presence of a mass in the brain, they are not good at identifying the exact nature of this mass (ie whether it is a tumor, inflammation or even bleeding within the brain). A sample of the fluid from around the brain may need to be taken to rule-out an inflammation of the brain and, in rare cases this can reveal the presence of a certain type of cancer called *lymphoma*. In order to confirm the exact cause of the mass and, if it is a cancer to find out how malignant it is, a tissue sample must be collected. This sample can be obtained by inserting a biopsy needle through the skull. If surgical removal of the mass is planned a sample may simply be collected at the time of surgery.

Aggressive tumors may spread around the body (metastasize). Brain tumors can spread to the chest and cancers from other sites (especially lung, liver, prostate, and mammary gland) may spread to the brain. X-Rays of the chest and abdomen as well as abdominal ultrasound

may be necessary to confirm that the cancer is not elsewhere in the body.

Can brain tumors be treated?

Advances in veterinary care for pets mean that brain tumors can be treated, although unfortunately there are few tumors which can be cured. Treatment is usually aimed at providing your pet with the best possible quality of life for as long as possible. Whatever treatment course you decide upon, if your cat is having seizures they should be given medication to control these - as the seizures are likely to be permanent.

How can brain tumors be treated?

The treatment and prognosis for brain tumors vary with the type of tumor. The most appropriate treatment for an individual depends on a number of factors, including the type of tumor and the general health of the patient. There are 3 basic options for the treatment of tumors:

1. Medication alone

There are very little chemotherapy options for brain tumors because the brain is a very protected site and most drugs cannot penetrate it. However treatment may help to reduce some of the signs seen in a patient with a brain tumor. A combination of anti-inflammatory medication (corticosteroids) to reduce the swelling and pressure caused by the tumor, and drugs to reduce the severity and frequency of seizures can be prescribed. In some cases this may relieve a lot of the symptoms and make the animal feel a lot better. This approach does not cost much and there is little risk of making your pet worse, however, in some cases this may only provide relief for a couple of months.

2. Medication and radiation therapy

While many brain tumors in cats are relatively benign (slow growing and unlikely to spread) and amenable to surgery, some are deep seated and therefore pose significant surgical risks. Radiation therapy can result in dramatic and rapid improvement of signs. The benefits of this treatment far outweigh the risks in most pets. Most animals do not suffer any side-effects

from the radiation treatment but these might include occasional nausea, mouth ulcers, ear infection or, rarely, blindness. Most of the side-effects of radiation can be controlled with additional medication. The advantage of using radiation treatment in addition to medication is that it can provide a longer period of good quality of life than with medication alone. Unfortunately, radiation rarely completely destroys the tumor and average remission times are 8 to 14 months before the cancer comes back.

3. Medication, radiation therapy and surgery

The ultimate goal of cancer surgery is to remove the tumor completely. Unfortunately, this is rarely possible with brain tumors and there are nearly always cancer cells left behind which cause the tumor to regrow. However, by removing as much of the tumor as possible at surgery, the remaining cells may become more sensitive to radiation. The polytherapy approach (combination of medication, surgery and radiation) is the mainstay of treatment for most brain tumors in man. The aim of treatment is to remove the bulk of the tumor by surgery to give other therapies a better chance of success.

Surgery also allows the veterinarian to obtain a sample of the mass and identify its nature, which may make it easier to give a more accurate prediction of how well the patient is likely to do. Not all brain tumors can be removed surgically, practicality depends on their position within in the brain. Tumors that are on the brain surface are more likely to be amenable to surgery. To reach a cancer deep within the brain the surgeon would have to cut through a large area of healthy brain tissue and this could have devastating effects for the recovery of the patient.

Surgery is the most invasive and costly option. Although many cats recover well and without complication brain surgery can (on rare occasions) cause irreversible damage to the brain. Some owners report that their pet's personality and behavior has changed after surgery. Brain surgery does carry a risk, particularly if the patient has other health problems as a lengthy anesthetic is needed. Occasionally the patient may not recover from the surgery. The benefits of this option are that it potentially offers the longest period of quality of life for your pet.

Will my pet suffer during treatment?

The aim of treatment for a brain tumor in pets is to prolong the period in which they enjoy a good quality of life. Your veterinarian will not want to prolong your pet's life if your pet is unhappy. Discuss all your concerns with your veterinarian before your pet starts treatment

and every stage of the course. It will always be your decision as to when your pet is no longer happy. At this time the best option for your pet will be to ask your veterinarian to euthanize them.

How long will my pet live?

Predicting how long your animal can live with a brain tumor can be very difficult as this estimation depends on many factors including the type of cancer (which determines how quickly it grows), its size and place within the brain and finally the treatment used. Although many animals survive only a matter of months after diagnosis of a brain tumor, with help they can have a good quality of life. If you decide to opt for treatment this time may help you to come to terms with what is happening to your pet and to have some happy memories to keep. As a rough guide, average remission time ranges from 1 to 6 months with corticosteroids alone, from 8 to 14 months with radiotherapy alone, and 12 to 20 months with surgery followed by radiotherapy.