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Brain Tumours Fact Sheet

Brain tumours in dogs and cats are unfortunately as common as they are in people.

Brain tumours can be devastating diseases and, sadly, cannot be cured in most animals. At present, the only options for treatment of brain tumours in dogs and cats are to improve the animal's quality of life and help them to live for as long as possible. Unfortunately all brain tumours are eventually fatal diseases.

What is a brain tumour?

A tumour (or cancer) is a growth of abnormal cells within a body tissue. Tumours in the brain can develop from brain cells (primary brain tumour) that have started to grow uncontrollably or the tumour may be the result of spread of a tumour elsewhere in the body. Common primary brain tumours include tumours arising from cells forming the lining of the surface of the brain (meningioma), the lining of the ventricle (ependymoma), the choroid plexus (choroid plexus tumour) or the brain parenchyma itself (glioma).

Fragments of tumours in dogs and cats 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 tumours are usually the result of the tumour growing and causing pressure on the surrounding normal brain tissue. This causes brain damage and inflammation.

What are the signs of a brain tumour?

Brain tumours in dogs and cats 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). These seizures are often very severe causing the animal to collapse, salivate profusely, thrash around and occasionally void its bowels and bladder. Unfortunately, these seizures are likely to be permanent. Other signs commonly seen are blindness, changes in the animal's personality, profound lethargy, circling and disorientation. Some people may notice that their pet appears to have a 'headache'. As with seizures, some of these signs may be permanent whatever the treatment course that you decide upon.

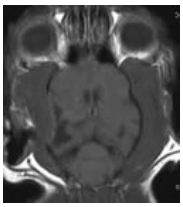
How will my vet know that my dog has a brain tumour?

Your vet may suspect that your pet has a brain tumour 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 pet's brain. Diagnosis of brain tumours in dogs and cats 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 (i.e. whether it is a tumour, 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 tumour called lymphoma. In order to confirm the exact cause of the mass and, if it is a tumour, 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. Alternatively, if surgical removal of the mass is planned, a sample may simply be collected at the time of surgery.

Aggressive tumours may spread around the body (metastasise). Brain tumours in dogs and cats can spread to the chest and tumours 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 an abdominal ultrasound may be necessary to confirm that tumours are not present elsewhere in the body.



Can brain tumours be treated?

Advances in veterinary care for pets mean that brain tumours in dogs and cats can be treated, although unfortunately there are few tumours 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 dog or cat is having seizures they should be given medication to control these – as the seizures are likely to be permanent.

How can brain tumours be treated?

The treatment and prognosis for brain tumours in dogs and cats varies with the type of tumour. The most appropriate treatment for an individual depends on a number of factors, including the type of tumour and the general health of the patient.

There are 3 basic options for the treatment of tumours:

Option 1 – Medication alone

There are very few chemotherapy options for brain tumours in dogs and cats 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 tumour. A combination of anti-inflammatory medication (corticosteroids) to reduce the swelling and pressure caused by the tumour, 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. However, animals on this combination of drugs are often very thirsty and hungry and may need to go to the toilet more often – occasionally this can cause problems with wetting in the house. The drugs used to control seizures may initially make your pet more sleepy, but most dogs get used to the drugs after a couple of weeks. 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.

Option 2 – Medication and radiation therapy

While many brain tumours in dogs and cats are relatively benign 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. It is not common for animals to suffer 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 tumour and average remission times are 8 to 14 months before the tumour recurs.

Option 3 – Medication, radiation therapy and surgery

The ultimate goal of cancer surgery is to remove the tumour completely. Unfortunately, this is rarely possible with brain tumours and there are nearly always tumour cells left behind which cause the tumour to regrow. However, by removing as much of the tumour as possible during 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 tumours in man. The aim of treatment is to remove the bulk of the tumour by surgery to give other therapies a better chance of success.

Surgery also allows the vet 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 tumours in dogs and cats can be removed surgically, practicality depends on their position within in the brain. Tumours that are on the brain surface are more likely to be amenable to surgery. To reach a tumour 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 dogs recover well and without complication, brain surgery can occasionally cause irreversible damage to the brain. Some owners report that their pet's personality and behaviour has changed after surgery. Brain surgery does carry a risk, particularly if the patient has other health problems as a lengthy anaesthetic 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 tumour in dogs and cats is to prolong the period in which they enjoy a good quality of life. Your vet will not want to prolong your pet's life if your pet is unhappy. Discuss all your concerns with your vet 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 vet to put him or her to sleep.

How long will my pet live?

Predicting how long your animal can live with a brain tumour can be very difficult as this estimation depends on many factors including the type of tumour (which determine 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 tumour, 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.

If you are concerned about the health of your pet you should contact your veterinary surgeon.

Davies Veterinary Specialists, Manor Farm Business Park, Higham Gobion, Herts SG5 3HR 01582 853878