

## Feline Lymphoma

Lymphoma is a cancer of lymphocytes, which are a type of white blood cell. This disease has also been called lymphosarcoma and malignant lymphoma. It is one of the most commonly diagnosed cancers in cats. Lymphoma can occur anywhere in the body. The exact cause of lymphoma is unknown, it is likely due to multiple factors such as genetics, the immune system, the environment and inflammatory processes in the body. Feline lymphoma has been associated with co-infection with feline leukaemia virus (FeLV) and/or feline immunodeficiency virus (FIV), however the incidence of viral associated lymphoma has decreased in recent years.

### ***Clinical signs***

Lymphocytes normally circulate around the body. They produce antibodies (B lymphocytes) and help fight viruses and cancers (T lymphocytes). Lymphocytes still travel around the body when they become cancerous, hence this disease is typically considered 'systemic' (involving the whole body); regardless of where the cancer was initially found. In cats, lymphoma is often classified based on the location of the cancer. The clinical signs will vary depending on this location. Some cats have multiple sites of involvement and do not fit well into a single category. In general, common presenting signs include lethargy, loss of appetite, weight loss, vomiting, diarrhoea, difficulty breathing and palpable masses within the abdomen. More specifically, some of the common sites of involvement include:

- Digestive (intestinal) tract: This is the most common form of feline lymphoma, most commonly seen in middle aged to older pets. The digestive tract includes the stomach, intestines, liver and the lymph nodes within the abdomen.
- Mediastinal: This form involves the lymph nodes located in the front of the chest. Affected cats may exhibit changes in breathing or start coughing. This is often due to compression of the lungs by enlarged nodes or excessive fluid building up around the lungs.
- Kidney: Typically, both kidneys are involved, even if not initially apparent. Clinical signs of kidney failure may be seen.
- Nasal: This form involves the nasal passages and sinuses and often presents with sneezing and nasal discharge (which may contain blood). Overall this location is associated with the best prognosis.

### ***Diagnosis and staging***

A diagnosis is often obtained by taking an aspirate or biopsy from a lymph node or affected tissue. At Advanced Vetcare we prefer a minimally invasive approach, this usually involves taking a small core of tissue whilst your pet is under sedation or anaesthesia. A biopsy allows assessment of the grade of lymphoma, this will alter the prognosis and treatment recommended. In some cases, we may recommend surgery or endoscopy to obtain adequate tissue to confirm the diagnosis.

Staging is a term to describe screening the body for cancer at other sites. For lymphoma this could include bone marrow aspiration, abdominal ultrasound and chest x-rays. The team at AVC will discuss with you which tests are appropriate for your pet and how they might alter prognosis and treatment. Blood and urine tests are performed to assess the

general health of your pet prior to treatment and to screen for cancer cells visibly circulating within the blood (leukaemia). We may also recommend screening tests for the feline viruses (FIV, FeLV) as the presence of these may affect prognosis and have implications for other cats in your household or neighbourhood.

### ***Treatment and Prognosis***

If left untreated this cancer is often rapidly fatal. As lymphoma is considered systemic, a treatment that targets the whole body is necessary. This means chemotherapy is the mainstay of treatment. The chance that your cat will go into remission is highly variable and depends on the location and degree of involvement of their cancer, as well as their condition at the time of diagnosis (i.e. well versus sick). Approximately 25-30% of cats will have a durable remission of greater than 1 year. Remission means that the cancer cannot be detected. In remission your pet should have a normal quality of life, however they are unlikely to be cured.

There are various chemotherapy protocols available, these vary in cost and intensity. In general, protocols using more than one drug work better. Multidrug protocols offer a better response rate, for a longer period of time; but can be associated with more clinic visits and higher costs. Chemotherapy is generally well tolerated in animals, please refer to our 'Chemotherapy in animals' handout for more information. The team at AVC will discuss all options with you, including palliative care.

For intermediate and high grade lymphoma the average survival time with chemotherapy is approximately 6-9 months, however this will vary depending many factors including the location of the lymphoma and the response to therapy. For low grade lymphomas average survival times are ~ 15-29 months. These patients often survive longer, but cure rates are lower. It is important to remember that these numbers are only estimations and do not predict how your individual cat/pet will fare.

In rare cases when lymphoma is confined to one part of the body, we may recommend **surgery** or **radiation** therapy, possibly followed by chemotherapy. Sometimes these local treatments can also be used for palliative reasons; AVC will discuss this if it pertains to your pet. It is important to remember, these are local treatments only and do not treat cancer elsewhere in the body, so it is important that staging tests are done first.

Palliative therapy involves giving corticosteroid tablets ("cortisone") which will often improve quality of life. A reasonable expectation with this option is that your pet would live for another two months, however this can be difficult to predict in cats.

### ***After chemotherapy***

After completing chemotherapy, your pet will undergo a period of monitoring and surveillance. This will be individually tailored to your cat. We recommend a revisit examination in 1 month and then every 3 months afterwards. If and when the lymphoma recurs, it is possible to treat your pet again. AVC will give you advice regarding treatment options and chances of success. As the signs of lymphoma are frequently non-specific and can be different at relapse, any illness might indicate recurrence. Early investigation is often beneficial.