Lung Cancer in Cats

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Cats, much like their humans, are prone to a number of disorders associated with aging. Cancer in its various forms is one such disorder and it can be a silent stalker. A missed spring in a cat’s leap, fewer finished meals, and the loss of a few pounds or ounces may be the only telltale signs in the early stages of the disease.

Lung cancer in cats (or pulmonary neoplasia) can be a hidden killer. Incidence numbers suggest lung cancer is uncommon as the condition was diagnosed in only 2.2 out of 100,000 cats in a nearly 30-year old study. Affected cats are typically over 10 years of age and there appears to be no breed or sex predisposition. Cancer of a less differentiated cell type seems to occur in cats under 10, more in the range of 8 to 9 years of age.

The subtle signs cats have with this disorder are often similar to many other illnesses. The most frequent signs noted are anorexia (decrease in appetite), weight loss, and lethargy. Respiratory changes, such as dyspnea (labored breathing), tachypnea (rapid breathing), and coughing, can occur in as few as one-third of affected cats. In one study, cancer was found in 47% of the hospitalized study cats that displayed a primary problem of respiratory distress involving pulmonary parenchymal disease. Respiratory distress results from fluid build up in the thoracic cavity (pleural effusion) affecting the ability of the lungs to expand. Other unusual and less frequent signs are fever, vomiting, and lameness. Pulmonary adenocarcinoma can spread to areas of skin, long bones, and paws. When located on the digits in and around nail beds, it is called lung-digit syndrome. This condition has an extremely poor prognosis.

Most types of lung cancer are malignant, though benign tumors can occur, and can be of a primary or secondary (metastatic) nature. Primary forms are most commonly adenocarcinomas (papillary or bronchioalveolar), followed by anaplastic carcinomas and then squamous cell carcinoma. These are highly aggressive cancers and tend to metastasize early, especially the anaplastic and squamous cell carcinoma forms. The last two mentioned have often metastasized to surrounding lung tissue or regional lymph nodes by the time of diagnosis. Approximately one-half of the adenocarcinomas will have metastasized by the time of diagnosis. Primary disease is less common than secondary or metastatic disease.

Secondary forms are due to metastasis to the lungs from cancer found in another part of the body. The most common type of cancer to metastasize to this area is mammary carcinoma. Other cancers also exhibiting a higher rate of lung metastasis are thyroid carcinoma, hemangiosarcoma, osteosarcoma, transitional cell carcinoma (bladder), squamous cell carcinoma, and oral or digital melanomas.
Radiography is one of the most common, but less sensitive, methods used for diagnosis. Three radiographic views of the thorax are recommended to best visualize lesions in all lung lobes. One study from 1987 noted the presence of pleural effusion often along with regional lymph node enlargement. A few cats had normal appearing radiographic films. Primary lung cancer presents more along a pattern of diffuse lung involvement with lobe consolidation or a solitary lesion with possible cavitation. The diaphragmatic lobes are usually most affected, with the right-sided lung lobes more so than the left. Mass lesions usually need to reach the size of 0.5 to 1 cm to be recognizable on a radiographic study. Metastatic disease will frequently appear as multiple interstitial nodes that appear as more circumscribed, smaller lesions in the middle to the periphery of the lung lobes. They also can have a diffuse, alveolar pattern on appearance along with possible pleural effusion.

Ultrasound or CT guided fine needle aspirates of the pleural effusion or lung and regional lymph node tissue for cytology or biopsy can also aid in diagnosis. Assessment of fluid or tissue masses can provide a diagnosis in many instances but missed diagnoses can also occur if the sample size is small, with poor exfoliation of certain cell types, or an inability to obtain a representative sample. Histopathology of lung biopsy samples may be required in some cases to make a definitive diagnosis.

The degree of differentiation of cancer cell type is the only recognized prognostic factor regarding survival times noted in studies regarding this disease. Cats with moderately differentiated tumors had a median survival time of 698 days (range 19 to 1526 days); poorly differentiated tumors had a survival time of 75 days (range 13 to 634 days). All of the cats died of metastatic disease with a median survival time of 115 days for both groups.

Treatment is usually palliative in most instances. A 2010 study results indicate that most primary pulmonary carcinomas may have strong multidrug resistance and therefore, it might be difficult to treat them using anticancer drugs. In cases where a single lung lobe is affected, a partial or full lobectomy can be performed surgically. One cat reportedly had an extended disease free (no radiographic evidence) interval of 34 months.
following left-sided pneumonectomy along with adjuvant chemotherapy of 10 doses of mitoxantrone, one dose given every 3 to 5 weeks.

Many veterinary practitioners question if this subtle and often hidden disease is under-diagnosed and therefore under-reported in veterinary medicine. When it is diagnosed, the disease is usually untreatable and the outcome for the patient pre-determined.

For More Information:


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