

Nasal Tumors, Malignant

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BASIC INFORMATION

Description

Tumors of the nasal cavity and nearby sinuses account for approximately 1-2% of tumors in dogs and 1-5% in cats. In dogs, most nasal tumors occur in large-breed dogs older than 8 years of age. Most nasal tumors are malignant (cancerous).

Causes

The cause of these tumors is unknown. Numerous types can occur, including primary tumors that arise from tissues within the nasal cavity (adenocarcinoma, squamous cell carcinoma) and sinuses, and secondary tumors that invade the nose (osteosarcoma, lymphoma, fibrosarcoma, melanoma, and others).

Clinical Signs

Most signs are very subtle initially, and the tumor can be present in the nasal cavity or sinuses for months before any abnormalities are seen. At first, nasal discharge is usually clear or pink-tinged; then it often becomes yellow-green or mixed with blood. The discharge usually comes from one side of the nose early in the course but is seen from both nostrils once the tumor invades the septum (tissue that separates the nose into two cavities). Intermittent nose bleeds may occur.

Advanced tumors cause distortion of the facial bones, the eyes, and the bone overlying the frontal sinuses of the forehead. As the tumor grows, it may also distort the hard palate and other structures in the mouth. Discharge from one or both eyes may be seen. Open-mouth, noisy breathing is common if the nasal cavity is obstructed. Invasion of the bone that lies between the nasal cavity and the brain may result in neurologic signs.

Diagnostic Tests

Tumors may be suspected in animals with chronic nasal discharge unresponsive to symptomatic therapy. X-rays of the head may demonstrate changes in the nasal cavity or sinuses that are compatible with a tumor, but they do not provide a definitive diagnosis. Occasionally, chronic inflammation and infection can lead to similar radiographic signs. Computed tomography (CT scan) or magnetic resonance imaging (MRI) may be recommended.

Microscopic analysis of material aggressively flushed from the nasal cavity following infusion of saline provides a diagnosis in fewer than 50% of cases. Rhinoscopy (examination of the nasal cavity with a fiberoptic viewing scope) allows direct visualization and biopsy of some tumors. Definitive diagnosis and determination of tumor type requires a biopsy.

Additional tests, such as laboratory tests and chest x-rays, may be recommended to rule out other nasal diseases that cause similar signs and to ensure that cancer is not present in other organs.

TREATMENT AND FOLLOW-UP

Treatment Options

Radiation therapy alone can control some nasal tumors in the dog and cat, depending on their location and extent. Surgery, alone or prior to radiation therapy, has not been proven to be superior to radiotherapy alone. In some cases, the best results are obtained by surgery that is done after radiation therapy has shrunk the tumor. Radioactive implants have been used in dogs after surgery with limited success. When surgery is done, the incision usually is made along the bridge of the nose and may extend into the frontal sinuses.

Chemotherapy is not very effective in most tumors except for lymphosarcoma. The chemotherapeutic drug cisplatin can help alleviate some signs related to nasal tumors, such as nasal discharge, sneezing, and nose bleeds, for varying periods of time. A vaccine has been developed against melanomas in dogs.

Follow-up Care

Facial appearance changes somewhat following surgery of the nasal cavity; however, cosmetic results are generally good. It is common for nasal discharge to be present for several days after surgery.

Radiation therapy can have some acute side effects, including skin irritation, eye inflammation, oral discomfort, hair loss, and inflammation of the nasal cavity. Longer-term complications of radiation therapy include retinal damage and cataract formation with blindness in one or more eyes; skin ulceration on the face; brain damage; and death of bones of the skull that were in the radiation field. Chronic inflammation of the nasal cavity and bone damage are more common when radiation therapy is combined with surgery (compared with radiation alone).

Prognosis

Prognosis is variable with nasal tumors. In dogs, the 2-year survival rate with radiotherapy followed by surgery is 69%, compared to 44% with radiation alone. Radiation and cisplatin therapy produces an average survival time of 474 days. In cats, typical survival time ranges from 13 to 20 months with radiation therapy alone. Cats with lymphosarcoma respond best to chemotherapy.

Spread of most nasal tumors to other tissues (lymph nodes, lungs) is rare, but with increased survival times it may become more of a concern in the future.