

## **ANAL SAC ADENOCARCINOMA**

Anal sacs are small pouches located on either side of the anus in dogs and cats which produce a scented liquid that helps animals communicate information about themselves or their territories. Tumors of the anal sacs (called apocrine gland adenocarcinomas) occur primarily in older dogs, and more often in females. No specific cause has been associated with anal sac carcinoma. Symptoms of this cancer may include straining to defecate or painful defecation, ribbon-like stools, scooting, bloody discharge on stools or around anus, or licking around the anus. These tumors might also be found incidentally on a routine physical examination. Sometimes dogs may have symptoms such as increased drinking and increased urination which results from very high calcium levels in the blood as a result of hormone production from the tumor. These tumors are diagnosed with cytology (cell sample with a needle) or a biopsy (tissue sample).

Anal sac adenocarcinomas are both locally invasive and metastatic. They have a high potential to spread to lymph nodes around the rectum and inside the pelvis and abdomen. They can also spread to the lungs, and occasionally to the liver, spleen, or other abdominal organs. After a diagnosis of anal sac adenocarcinoma is obtained, staging tests are recommended to determine whether or not the cancer has already spread. This includes chest x-rays of the lungs and an abdominal ultrasound or CT scan to evaluate internal lymph nodes and organs. Baseline bloodwork with a complete blood count and a chemistry panel is recommended to evaluate blood cell counts, organ function, and calcium levels.

Surgery is the first treatment approach. If the primary tumor is amenable to surgery and there is no evidence of metastasis, surgical removal is the primary treatment recommendation. While this is unlikely to result in cure since many of these tumors can recur and metastasize, it can provide a significant interval of time with a good quality of life. Depending on the size of the tumor, complete surgical excision may or may not be feasible. With large, invasive tumors, there can be risk of fecal incontinence post-operatively. If the internal lymph nodes are enlarged, there may be an option for these lymph nodes to be removed as well, although this is a more invasive abdominal surgery. Surgical excision of both areas would provide the best long-term control of this cancer by reducing the cancer to microscopic disease, but we know that the cancer cells can grow in other lymph nodes, other organs, or grow back at the rectal surgery site. Follow-up therapy with chemotherapy and NSAID therapy may be recommended to slow recurrence and metastasis as long as possible.

Surgery alone may not be able to cure this cancer since many of these tumors have potential to metastasize. There is a higher risk seen in high grade tumors and larger tumors, although it more often occurs later in the course of the disease. Some studies have shown that the addition of chemotherapy and/or radiation therapy after surgery has helped to increase the survival time and lower the risk of metastasis. The goal of chemotherapy is to kill or slow the growth of metastatic cells and any cells potentially remaining in the area of the tumor. Chemotherapy can also be given in a "palliative" setting to slow the progression of metastasis or tumors that cannot be removed with surgery. The most commonly used chemotherapy options include carboplatin, mitoxantrone, and Palladia (toceranib).

The prognosis for this cancer is highly variable and is influenced by tumor size, ability for surgical removal, presence of metastasis or hypercalcemia, and various treatment options. A poorer prognosis is seen in dogs that do not have surgical excision, those that have tumors larger than 4 cm, those with high blood calcium levels, and those with metastasis found at diagnosis.

Please remember that each patient is an individual and can have variable presentations of their cancer and responses to treatment. Specific details and recommendations for your pet can be discussed in detail during a consultation with the oncologists at the Animal Cancer Center of Texas.