

Bladder Cancer

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BASIC INFORMATION

Description

Bladder cancer includes all malignant tumors of the bladder and accounts for fewer than 1% of all cancers in dogs and cats. Most tumors of the bladder are malignant. Inflammatory polyps are the most common benign tumors of the bladder.

Causes

The most common type of bladder cancer is transitional cell carcinoma. Breeds predisposed to this tumor include the Scottish terrier, Shetland sheepdog, collie, Airedale terrier, and beagle. Other types of bladder tumors include squamous cell carcinoma, lymphoma, adenocarcinoma, and rhabdomyosarcoma. Although most bladder cancers occur in older pets, rhabdomyosarcoma occurs in young, large-breed dogs. Bladder cancer may be more common in female than in male dogs, and it is rare in cats.

Clinical Signs

The most common signs are blood in the urine, straining to urinate, and urinating small volumes of urine frequently. If the tumor is large, it can sometimes be felt by your veterinarian when palpating the animal's abdomen. Because these tumors can grow into the urethra (the tube that carries urine from the bladder to the outside), they can sometimes be felt during rectal palpation.

If the tumor blocks the urethra, dogs may strain to urinate without producing any urine. The bladder can become very large because of the retained urine, even if the blockage is not complete. If the tumor blocks one ureter (the tube that carries urine from the kidney to the bladder) as it enters the bladder, clinical signs may not be apparent. If both ureters become blocked, kidney failure occurs.

Diagnostic Tests

Initially, blood and urine tests (urinalysis, culture) are often recommended to investigate the clinical signs. Standard urinalysis is not likely to show cancer cells. A special urine test, called a *bladder tumor antigen test*, can be used to screen for bladder cancer. Any disease of the bladder, including a simple bladder infection, can cause the test to be positive (false-positive result), but a negative test means that the chance that cancer is present is extremely low. This test can be used to screen older dogs at risk for bladder cancer (especially Scottish terriers) before they develop any signs of bladder disease.

X-rays cannot usually detect bladder tumors, so other tests are needed. An abdominal ultrasound can detect bladder masses but cannot determine whether the mass is benign or malignant.

A contrast study may be performed by infusing either carbon dioxide gas (negative contrast) or a liquid dye (positive contrast) into the bladder via a urinary catheter and then taking a series of x-rays. Cystoscopy, which involves passing a small fiberoptic viewing scope into the bladder through the urethra, can be used to identify and biopsy a bladder mass.

The type of cancer present can only be determined with a biopsy. In some cases, the biopsy is obtained at the time of surgery. If cancer is suspected, chest x-rays may be recommended to look for metastasis (spread of tumor).

TREATMENT AND FOLLOW-UP

Treatment Options

Most bladder cancers arise in the region of the bladder where the openings of the ureters and urethra enter the bladder, which makes complete surgical removal difficult. Transplantation of the ureters into other areas of the bladder and diversion of the urethra to the outside of the abdomen may be required.

An experimental technique using laser therapy (with cystoscopy and ultrasound) is being developed to remove portions of bladder tumors. When the tumor regrows, this procedure can be repeated. If the tumor blocks the urethra, a metal tube (stent) can be placed in the urethra to hold it open so that patient can empty the bladder; alternatively, a tube can be placed directly from the bladder to the outside to allow urine drainage. If the tumor blocks the ureters, a stent may also be attempted.

Transitional cell carcinoma does not readily respond to chemotherapy. Piroxicam, a nonsteroidal anti-inflammatory drug, may have some benefit in dogs. Secondary infections are treated with antibiotics.

Follow-up Care

Monthly ultrasounds may be done to monitor tumor progression. Cystocentesis, a method of obtaining urine by inserting a needle into the bladder, should be avoided in dogs with bladder cancer, because it could spread cancer cells along the needle track. Urine cultures (of samples obtained by a catheter or collected at home) are often performed every 2 to 3 months.

Prognosis

Prognosis for transitional cell carcinoma is poor, with average survival times of several months. Causes of euthanasia include obstruction of the urethra, kidney failure, metastasis, and poor quality of life.