

URINARY BLADDER TUMORS



OVERVIEW

Bladder tumors are relatively common in dogs, but rare in cats. Some dog breeds, such as Scottish Terriers, are predisposed to bladder tumors. The vast majority of bladder tumors are malignant; however, the small minority can be benign. The most common bladder tumor in both cats & dogs is the transitional cell carcinoma (TCC), but benign tumors (ie, papilloma & adenoma) & other malignant tumors (ie, squamous cell carcinoma (SCC), rhabdomyosarcoma, leiomyosarcoma & hemangiosarcoma) have also been reported. Bladder tumors often produce clinical signs similar to urinary tract infections (UTI, such as hematuria (blood in the urine) & dysuria (urinary difficulties or straining) & hence diagnosis can be difficult.

SIGNS/SYMPTOMS:

The signs that your pet may show depends on the location & type of bladder tumor (benign vs malignant).

Some may cause damage to the urinary tract lining causing inflammation reaction, which may predispose your pet to bacterial UTI.

Signs of bladder abnormalities may include:

- Abdominal discomfort
- Blood in the urine
- Straining to urinate
- Urinary accidents
- Urinating small amount frequently

DIAGNOSTICS:

Your primary care veterinarian will likely recommend evaluation of your pet's blood & urine. Urinary obstruction can cause heart rate & rhythm abnormalities seen on ECG.

Identification of UTI associated with urinary tumor requires culture.

X-rays (radiography) & ultrasound are the most commonly performed imaging techniques.

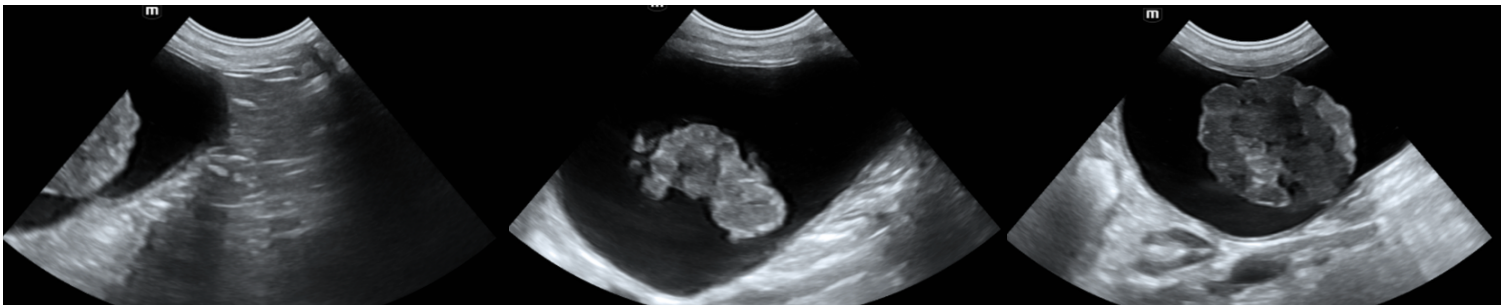
Ultrasound examination can be very useful in evaluation of the kidneys, ureters & bladder. Ultrasound-guided fine-needle aspirates are not recommended because of the risk of seeding tumor cells into the abdomen, SC tissue & skin.

Bladder tumors are diagnosed with urinalysis, blood tests & imaging modalities such as contrast radiographs & ultrasound.

A definitive diagnosis is possible with traumatic catheterization & urine sediment cytology.

Initial Database

- CBC, serum biochemistry profile: no specific findings. Azotemia & hyperkalemia if obstruction present.
- Urinalysis: proteinuria & hematuria are common & may be complicated by secondary bacterial UTI with pyuria, bacteruria.
- Test for BRAF V595E mutation (CADET): polymerase chain reaction (PCR) assay of urine for a common mutant gene in bladder cancer is 85% sensitive & 100% specific for bladder cancer.
- Abdominal radiographs: visualization of bladder mass is uncommon. Bladder distention may be seen & with rupture; peritoneal or retroperitoneal fluid may be present.
- Thoracic radiographs: metastases may be present. Pulmonary lesions may be nodular interstitial, unstructured interstitial, cavitated or alveolar in appearance; bone lesions possible.
- Abdominal ultrasound: bladder mass or wall thickening with possible metastasis to abdominal organs or nodes; prostate (male) or urethra is commonly involved.
- CT: useful for monitoring total tumor volume & staging for metastasis to lymph nodes & lungs.



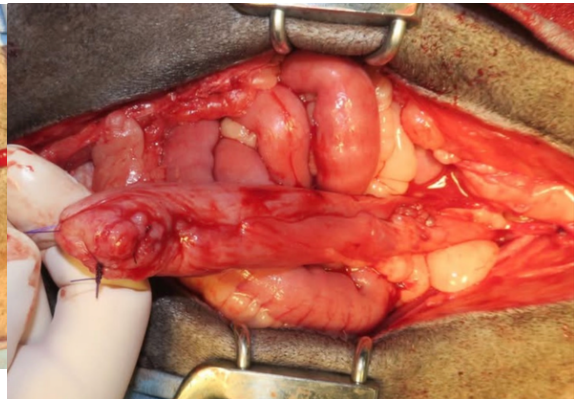
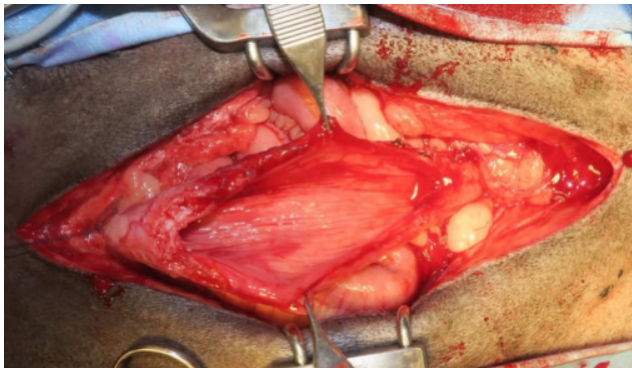
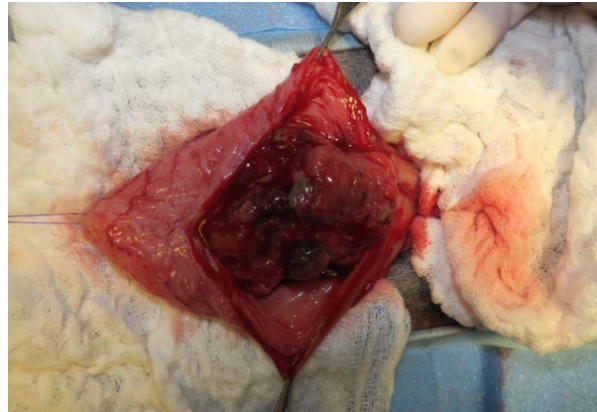
TREATMENT:

Bladder tumors are difficult to treat because most TCCs are located in the trigone (where the ureters enter the bladder), most are advanced at the time of diagnosis (ie, they invade into the muscle layers of the bladder) & TCCs often involve the entire lining of the bladder (or urothelium). Based on criteria used in people, surgical removal of the entire bladder is recommended for muscle-invasive tumors.

Currently, partial cystectomy in combination with chemotherapy is recommended for the treatment of TCC in dogs.

+/-Urethral stenting or placement of a cystostomy tube is occasionally required for dogs with obstruction of urine outflow because of the tumor.

Chemotherapy is recommended & involves the use of NSAID drugs (ie, meloxicam, deracoxib or piroxicam) & mitoxantrone. Chemotherapy will require the veterinary oncologist referral &/or consultation based on biopsy (histopathology) bladder tumor grading & type.



PROGNOSIS:

The prognosis is FAIR (benign) to GUARDED (malignant) for dogs with TCC of the urinary bladder.

The median survival time for dogs with TCC treated with piroxicam alone is 181-195 days compared to 350 days for dogs treated with piroxicam & mitoxantrone.

Pearls & Considerations

- Repeated urinary tract signs, especially in older animals, warrant screening for TCC.
- Early detection is critical for best response to treatment.
- BRAF mutation test may allow early detection in geriatric at-risk breeds of dogs with lower urinary signs.
- Definitive diagnosis necessary for prognosis and therapeutic decisions requires cytologic exam or biopsy.
- Bacterial UTI is a frequent complication.

AFTERCARE & OUTCOME:

Many pets return to normal in most incidence in ~1-2 weeks & clinical signs usually resolved in benign bladder tumor. In malignant bladder tumor, further treatment is required with referral to speciality veterinary oncologist.

NOICTA: 3 days long lasting slow-release bupivacaine intra-OP surgery injection was given to help with local surgical incision.

Pain medications should be tailor to the lowest effective amount especially for the first 3 days then taper the dosage up as indicated.

Observe for vocalization, biting or licking at the surgical site, anxiety &/or lethargy.

A Primapore adhesive band aid was applied to the surgical site with antibiotic ointment to help prevent self-trauma & infection. Skin glue was applied to the edges to allow the Primapore to adhere to the skin for about 5-7 days. Allow the Primapore to fall off naturally unless it is dirty or soil or wet then please remove earlier; however, by forcing the adhesive off early it may cause skin irritation or inflammation.

E-collar should always be on for a minimal of 14 days until the skin incision is completely healed. A body suit may be warranted, which will be provided by your surgeon.

The only time that the e-collar may come off is during direct adult supervision otherwise please keep the e-collar on to prevent self-trauma to the incision site & infection.

Activity restriction is recommended for minimal of 14 days until the skin incision is completely healed.

Absolutely no running, jumping, jogging, playing, or using stairs whatsoever.

Increase activity may increase the chances of post-operative incision complications such as seroma (fluid filled pocket at the incision site), increase incisional inflammation, incision wound opening, delayed incision site healing, suture reaction & abdomen (peritonitis) &/or wound infection, so nursing care & monitoring is the utmost importance.

Medications will be discussed with your primary veterinarian & staff.

Please make sure you understand what the medications are, how to give, how frequent to give & the potential side effects.

Diet options after this surgical procedure include regular diet unless prescription diet is needed for 1/4 amount of recommended diet the night of surgery is ok (~6 hours after surgery) if your pet is willing to eat. It is important that we make sure to feed your pet to allow for proper nutrition. It is a good prognosis if your pet eats well & keep the food down without vomiting or diarrhea.

OPTIONAL: If possible 24-hour aftercare is always recommended in case if the recovery after surgery is not smooth or routine.

If 24-hour aftercare is NOT possible then make sure to know what signs to look for while your pet is in your care that you have map out the nearest location of a 24-hour veterinary ER hospital / clinic & their phone number.

If you have any questions, please feel free to ask your primary veterinarian &/or veterinary surgeon.

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