

# Transitional Cell Carcinoma in Dogs

A Brief Guide • Part of the Educational Pet Disease Series from Lap of Love

## Signs & Symptoms

### Initial Symptoms

- Straining to urinate
- Bloody or pink tinged urine
- Licking the penis/vulva
- Hunched posture
- Painful when picked up
- Lethargic
- Lack of grooming

### Intermediate Symptoms

- Weight loss
- Increased urination/thirst
- Decreased activity/play
- Multiple urinary tract infections
- Urinary incontinence
- Redness around penis/vulva

### Advanced Symptoms

- Reclusive, quiet behavior
- Decreased appetite
- Nausea/vomiting
- Diarrhea/constipation
- Painful abdomen
- Urine scalding

### Crisis Situations Requiring Immediate Medical Intervention

- Unable to pass urine at all
- Difficulty breathing/panting
- Unable to walk/ sudden collapse
- Blue gums and/or tongue
- Uncontrollable vomiting/diarrhea
- Crying, whining in pain

## What Is It?

Urogenital cancers occur most frequently within the bladder, and account for 2% of all canine cancers. Transitional cell carcinoma (TCC), an invasive and malignant cancer, is the most common urinary system tumor reported in dogs. TCC is categorized as either low grade or medium to high grade. Most dogs suffer from high grade TCC which aggressively invades into the muscle layers of the bladder wall. As the TCC grows, the mass can obstruct urine flow and can metastasize (spread to other areas) to lymph nodes and other organs. Less commonly, TCC can originate in the kidneys, prostate, urethra, and ureters. Dogs frequently display symptoms including: straining to urinate, painful or frequent urination, increased urination/thirst, bloody urine, licking at the genitals, abdominal pain, frequent urinary tract infections, lethargy and incontinence. The causes of TCC are genetic and environmental. Terrier and hound breeds are over-represented and older generation flea and tick products, pesticides, and insecticides have been identified as environmental causes.

## Diagnosis

Investigating urinary symptoms is broadly approached with a physical exam, urinalysis test, urine culture, basic bloodwork and x-rays of the abdomen. Definitive diagnosis of TCC requires a tissue biopsy by surgery or cystoscopy (a scope inside the bladder that can assist with a biopsy). If TCC is confirmed, "staging" the tumor to determine the extent, spread, and degree of disease allows for appropriate treatment planning. Staging may include chest x-rays, abdominal ultrasound or CT scan, and other imaging techniques of the bladder to localize and measure the size of the TCC.

## Treatment and Management

**Symptomatic Treatment:** As the TCC grows, it may block urine flow, which may require medical and/or surgical intervention. Options to restore urine flow include surgical and non-surgical stent (small tube) placement within the affected/blocked area of the urinary structure. Some dogs may need a cystostomy tube, which connects the bladder directly to a small opening in the body wall. Dogs with TCC are at high risk for developing urinary tract infections. Managing this risk requires frequent urinalysis and antibiotic therapy based on urine cultures.

**Primary Treatment:** Surgical removal of the cancerous mass is typically not a viable option as it would require removal of an unreasonable amount of the bladder with a minimal chance of cure. However, palliative surgical de-bulking to restore urine flow and decrease symptoms may be an option. Radiation therapy has been successful in controlling canine TCC, but may produce intolerable side effects. Most dogs are treated with oral medications. Non-steroidal anti-inflammatory drugs (NSAIDs) such as Piroxicam have been shown to improve and stabilize TCC as a single therapy. NSAIDs combined with IV chemotherapy drugs have also demonstrated successful remission and stabilization of TCC. Metronomic chemotherapy which involves at home daily oral medication at low doses intended for chronic cancer control, not cure, has shown promise. Ultrasound guided laser ablation (destruction) of tissue while not a cure, can increase quality of life, relieve an obstruction, and provide a non-invasive option for palliative therapy.



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## Prognosis

The prognosis for canine TCC depends on the rate of growth and metastasis, in addition to response to therapies instituted and the overall health of the pet. Treatment with NSAIDs and chemotherapy agents currently provides the best option for remission with reported survival times an average of 9 months to a year. Unfortunately, approximately 20% of dogs have detectable metastasis at the time of diagnosis which means a poorer prognosis. Regardless, TCC is considered a manageable disease that warrants a discussion with your veterinarian. Consider consultation with a veterinary oncologist to discuss options, including palliative measures, and to formulate an individualized treatment plan for your pet.

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## Management Tips

### Consider providing:

- Easily accessible food and water
- Ramps
- Filtered water only
- A running or filtered water fountain
- Access to safe, quiet areas
- Warm, soft sleeping areas
- Traction on slippery surfaces
- Calming, natural products such as thunder shirts and pheromone collars
- Potty pads or diapers if needed
- Canned food instead of dry to increase water intake
- Cranberry supplements if appropriate

### Try to:

- Be consistent with medicating
- Have fresh water available all the time
- Track your dog's appetite, weight, etc.
- Track the good days vs. the bad days
- Limit stress (kids, noise)
- Use gentle handling at all times
- Check around the penis or vulva daily for evidence of masses, urine or fecal scalding, or skin infections
- Leash walk to monitor urination/defecation
- Shave fur around the genital/rectal area
- Groom frequently to avoid matting
- Use a medicated salve and/or powder from your veterinarian around raw areas
- Avoid swimming and rough play
- Trim nails regularly

Before your pet's condition becomes unmanageable or quality of life decreases, it is important to begin end-of-life care discussions. Learn about pet hospice care and/or euthanasia services in your area so you are prepared.