



**GULF COAST  
VETERINARY  
SPECIALISTS**

**SPECIAL  
POINTS OF  
INTEREST:**

- **TCC** comprises 85% of malignant bladder tumors in dogs and 30% in cats
- Conventional therapy may involve surgery, chemotherapy or palliative therapy with non-steroidal medications
- **UGELAB** may offer patients an alternative therapy to rapidly alleviate clinical signs and improve quality of life in veterinary patients

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# TGCVS Times

*ADVANCING COMPASSIONATE VETERINARY CARE*

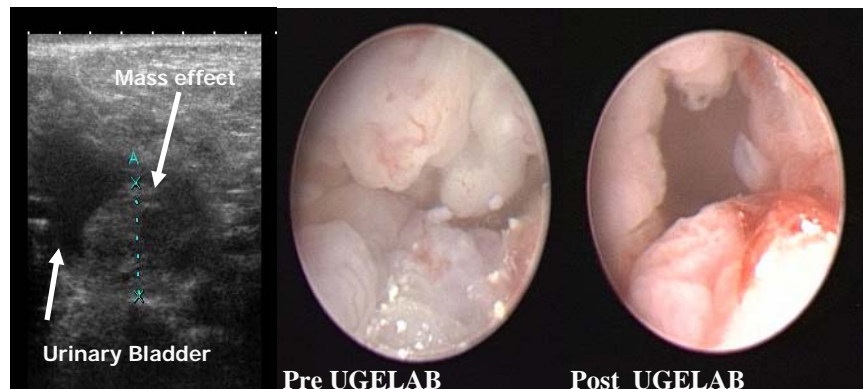
VOLUME 1, ISSUE 3

MAY 2010

## Transitional Cell Carcinoma

AUS image showing a large urinary bladder mass later confirmed to be TCC.

The latter two images show a urethral mass pre UGELAB and post UGELAB. Note the increased urethral diameter post UGELAB resulting in improved ability to urinate.



**Dear Colleague,**  
**Transitional cell carcinoma is the leading diagnosis when faced with a malignant bladder tumor in our veterinary patients. Treatment options are limited due to the tumor location. Often these patients are euthanized due to a poor quality of life from their inability to urinate. Recent advances combining the use of ultrasound, laser therapy and radiation therapy are now offering our clients more options in the management of transitional cell carcinoma and improving quality of life in affected patients.**

### Clinical Signs and Diagnosis of Transitional Cell Carcinoma (TCC)

Transitional cell carcinoma (TCC) is a malignant cancer originating from the lining of the urinary tract system and can be found throughout the urinary bladder, urethra and distal urinary tract. Owners may notice clinical signs such as stranguria, hematuria, pollakiuria or even tenesmus. Often these patients present with a history of having been treated for a urinary tract infection with little response to antibiotic therapy.

Common staging tests include a complete blood count, chemistry profile, urinalysis and urine cytology. A bladder tumor antigen test (BTA) is a good screening test in a non clinical animal, but results can be falsely positive with large amounts of blood or protein in the urine (such as with a urinary tract infection). Thoracic radiographs and an abdominal ultrasound are also obtained to help stage the patient. An aspirate of the mass or traumatic catheterization can be used to obtain cells for definitive cytologic diagnosis. In some cases a biopsy of the mass may be necessary for a definitive diagnosis.

### Conventional Treatment Options for TCC

If the tumor is isolated to the apex of the urinary bladder, surgical options may be considered. Because this tumor generally involves the trigone of the urinary bladder, this is generally not an operable cancer so therapies revolve around chemotherapy and/or radiation therapy. The goal with treatment is to minimize inflammation associated with the mass, alleviate clinical signs, and provide good quality of life for as long as possible.

Chemotherapy is considered the gold standard in management of bladder tumors. Drug options include chemotherapy agents such as mitoxantrone, carboplatin, or cisplatin. Piroxicam (a non-steroidal anti-inflammatory) is also used to minimize inflammation within the tumor as well as for its possible anti-tumor properties. Average survival time with piroxicam alone is 180 days. The addition of chemotherapy improves the average survival time to approximately 1 year.

**What else can be done for TCC?**

When conventional surgery cannot remove a bladder tumor there are other alternatives. Ultrasound Guided Endoscopic Laser Ablation (UGELAB) involves a cystoscope being passed into the lower urinary tract allowing us to identify all normal and abnormal tissue. Using color flow technology, a radiologist utilizes ultrasound to guide the cystoscopist and identify any large vessels supplying the tumor. A laser is then used through the cystoscope to remove as much of the tumor as safely possible and ablate vessels, causing additional tumor cell death. Although UGELAB is not curative, it can provide a rapid and safe method to quickly reduce the amount of tumor present providing rapid relief of urinary symptoms.

Following the UGELAB, radiation therapy can be used to minimize and slow the rate of local recurrence. Hypofractionated Stereotactic Radiotherapy (H-SRT) is an experimental protocol used as a palliative (not curative) treatment option. It involves a pre-treatment planning CT scan followed by 3 high-dose radiation treatments delivered within 1 week with regular follow-up visits scheduled afterwards.

**Which patients are considered candidates for UGELAB?**

UGELAB is currently only performed in dogs over 10lb. UGELAB can be done at any time after diagnosis—as a first line treatment option, in combination with chemotherapy or as a rescue therapy. UGELAB can be repeated more than once should clinical signs occur again.

**What can my client expect for their pet if selected for UGELAB?**

The cost will vary somewhat depending on the particular aspects of the patient's case. After one of our doctors has evaluated your client's pet, our staff will be happy to provide an estimate to your client which will reflect that patient's specific needs. Typically patients admitted for UGELAB can expect to be in the hospital for 1-2 days.

**How do I refer a patient for UGELAB?**

If you would like one of your patients evaluated for traditional therapy for their TCC, they can be referred to our Oncology team (713-693-1166). If you would like us to evaluate your patient for UGELAB, they can be referred to our Oncology team (713-693-1166) or our Internal Medicine team (713-693-1144). If you have any questions concerning TCC or UGELAB, please don't hesitate to contact us.

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