1. Overview of end stage of the disease.

- Most patients with bladder transitional cell carcinoma have blood in the urine and difficulty urinating. They may have painful urination, frequent urination, straining to urinate, or the inability to urinate.

- Urethral or ureteral obstruction is not uncommon. Urethral obstruction has historically been managed quite successfully with the placement of a cystostomy tube, though this procedure risks possible seeding of the cancer cells to other tissues. A newer and minimally invasive approach is the placement of a stent to relieve obstruction.

- Catheter placement may relieve pressure and some pain, though is not possible in all patients depending on the cancer’s progression. Cystocentesis is not recommended as it may result in seeding tumor cells.

- Transitional cell carcinoma of the bladder can be very aggressive, and metastasis has been reported in about 50% of patients. The most common sites for metastasis include the lungs, liver, and spleen. If left untreated, survival time is generally around 2 months following the onset of symptoms.

- Kidney disease may result from buildup of urine due to obstruction. Kidney failure and complications due to metastasis are the traditional causes of death in patients with transitional cell carcinoma. As such, pets with this condition exhibit various end of life processes including multi-organ shutdown and respiratory failure.

- Rupture of the bladder wall and the filling of the abdomen with urine occurs in some patients. This can lead to systemic and be very painful, eventually leading to death.

2. Is this condition painful?

- In cases where a tumor obstructs the flow of urine either in the ureters or urethra, pressure from the buildup of urine can be painful to your pet.

- Painful urination is also common with transitional cell carcinoma.

3. Making the decision to euthanize.

- If your pet has become very painful and you are unable to keep them comfortable, consider euthanasia. Likewise, if your pet is experiencing difficulty breathing or is in a state of distress, euthanasia is preferred as a means to their suffering.
4. What are the current medical therapies for this condition?

- Piroxicam is the anti-inflammatory medication of choice for patients with transitional cell carcinomas and should be given orally at 0.3 mg/kg once daily. Piroxicam has also demonstrated some anti-tumor effects, although though it is non-curative. Studies regarding its long term safety in cats have not been conducted, so other NSAIDs may be recommended for feline patients.

- Chemotherapy has been moderately effective against transitional cell carcinomas and can have potent anti-proliferative effects. However, transitional cell carcinoma of the bladder can be difficult to treat and typically requires multiple chemotherapeutic agents (such as methoxantrone and vinblastine) as the cancer becomes nonresponsive to a given treatment.

- Radiation can be used to improve patient outcome as well, and may increase survival time and/or alleviate some clinical signs.

- In patients with localized tumors non-adjacent to the trigone of the bladder, surgical resection of the mass may be possible. It should be noted that transitional cell carcinomas can be difficult to perform surgery on due to proximity to the ureters and urethra, and may inadvertently facilitate cancer spread and growth. An additional concern is that after the removal of cancerous bladder tissue there may not be enough tissue left for a functional and expandable bladder.

5. Other advanced medical therapies documented.

- A variety of advanced techniques are being studied in human medicine, but are either not yet available for veterinary use or do not have confirmed effectiveness.