

**PATIENT PRESENTING CLINICAL SIGNS**

Dakota Potwin

Dakota presented with a 2-3 month history of stranguria, pollakiuria and hematuria. In house abdominal ultrasound on 12/14/21 showed the presence of a bladder mass. She was treated with Baytril and carprofen. Visible hematuria has resolved. When she urinates, there is a urine stream at first but she does not empty her bladder. She continues to attempt to urinate thereafter only able to produce small amounts of urine. It may take 15-20 minutes to urinate. She is not acting painful. Appetite and activity are normal. She is currently on carprofen only.

**SPECIES**

Canine

**BREED**

Border Collie

**SEX**

SF

**AGE**

11 Years

**INTERPRETED BY**

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**HOSPITAL NAME**

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Abnormal PE/Chem/CBC/UA Results: PE: Normal Lab: Bloodwork is dated 2/6/22. CBC - PCV = 49.7%, WBC = 16420, neutrophils = 15050, lymphocytes = 900, monocytes = 310. Platelets = 330,000. Mini Chemistry - ALT = 374, all else normal. Urinalysis not provided. Ultrasonographic Findings: Urinary Tract: The right kidney is smaller than the left and has a cortical defect (indentation) over the caudal pole. The left kidney measures 72.3 mm and the right 56.4 mm. Renal corticomedullary differentiation and echogenicity are normal. Renal pelvises are not distended. There are no kidney stones. A mass arises from the right lateral wall of the urinary bladder. The mass extends to the apex cranially and to the mid bladder caudally. There is no mass tissue within the bladder trigone. The mass measures 11.5-25.4 mm thick. Remaining urinary bladder walls are smooth and thin. The proximal urethra is normal in diameter measuring 4.7 mm. The left medial iliac lymph node measures 24.4 x 7.3 mm and the right 19.4 x 7.0 mm. Lymph nodes are echogenic and homogenous. The left periportal lymph node is severely enlarged, hypoechoic and contains multiple small cavitations. It measures 40.6 x 24.6 mm in diameter. The right periportal lymph node measures 34.3 x 11.1 mm. Cystoscopy Findings: The lower urinary tract is imaged using a 2.7 and 3.5 mm 0 and 30-degree cystoscopes. Mucosa lining the vestibule is smooth and light pink. The urethral orifice and vestibulovaginal junction appear normal. A single tuft of tumor tissue arises from the dorsal wall of the vestibule. There are multiple nodules of white, raised and sometimes fimbriated mass tissue throughout the urethra. An area of obstructive mass tissue fills the urethral lumen at the mid urethra. Mucosa lining the proximal urethra is smooth and pink. A large raised mass with an irregular pale surface arises from the right lateral wall of the urinary bladder. The mass extends cranially to the bladder apex and caudally to the mid bladder. Mass tissue is not found within the trigone. Remaining urinary bladder mucosa is smooth and pale pink. Mucosa is thin. Ureteral orifices are visualized in their normal positions and pulsatile normal appearing urine is observed flowing from both sides. Mass tissue occluding the mid urethral is removed for palliation using a resectoscope. Sufficient mass tissue is removed to create a large patent lumen and good urine flow through the urethra when the bladder is expressed.

**REFERRING VET**

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**COMPUTED TOMOGRAPHIC STUDY OF THE THORAX & ABDOMEN**

Plain and post contrast studies available for review.

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**DATE**

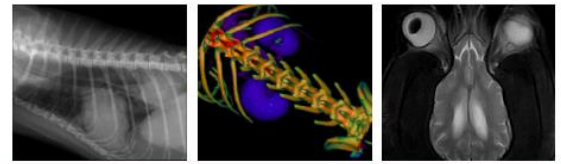
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**COMPUTED TOMOGRAPHIC FINDINGS**

**Abdomen**

An ill-defined heterogeneously enhancing mass is infiltrating the urethral wall 3.5 cm caudal of the urinary bladder neck and spanning the entire length of the pelvic and vaginal urethra. Total length is approximately 7.5 cm. The mass appears to be situated within the urethral wall circumferentially. Irregular luminal surface and strong nonuniform contrast enhancement are seen. The mass appears to extend into the vaginal vestibulum. The urinary bladder neck is patent.

An approximately 5.0 x 3.0 cm sized luminal mass with irregular surface is arising from the right



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lateral urinary bladder wall and spans the right urinary bladder wall starting from the urinary bladder apex up to the level of the vesico-trigone. Focal mineralization and nonuniform contrast enhancement are noted as well as an irregular luminal surface of the mass with cauliflower appearance. No direct involvement of the right ureteral orifice is seen. However, the mass extends almost to the level of the right ureteral orifice. There is no evidence of ureteral dilation or pyelectasia.

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The medial iliac and hypogastric lymph nodes present within normal limits.

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Multiple cortical renal infarcts are seen in both kidneys with one large area of infarction in the caudoventral aspect of the right kidney.

Occasional mildly hyperenhancing nodules are seen within the spleen.

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SF

Both portal lymph nodes are moderately enlarged with the left portal lymph node measuring 4.0 x 3.0 cm and the right portal lymph node measuring 3.5 x 1.5 cm. One epigastric lymph node is moderately enlarged as well and measures 1.1 cm in diameter.

The liver presents within normal limits except for a 5mm sized parenchymal cyst within the caudate lobe of the liver.

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**Thorax**

The bony and surrounding soft tissue structures are within normal limits.

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The sternal, cranial mediastinal and tracheobronchial lymph nodes are small elongated with a normal short-to-long-axis-ratio is < 0.5, the attenuation and contrast enhancement pattern are uniform and considered within normal limits.

The cardiovascular structures including the pulmonary vasculature are within normal limits.

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The bronchial tree presents with regular branching and tapers uniformly towards the periphery as expected, the bronchial walls are thin and smooth. The bronchus-to-artery ratio is within normal limits.

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The lung parenchyma presents the expected architecture and attenuation behavior.

Small incidental gas pockets are seen within the esophageal lumen, there is no evidence of abnormal dilation.

**COMPUTED TOMOGRAPHIC DIAGNOSIS**

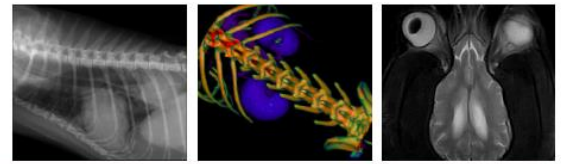
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- Urethral mass with neoplastic criteria and signs of aggressive biological behavior.
- Urinary bladder mass with presumed aggressive biological behavior.
- No evidence of regional metastatic disease.
- Moderate epigastric and portal lymphadenomegaly.
- Hyperenhancing splenic nodules.
- Bilateral chronic cortical renal infarcts.
- Uncomplicated parenchymal liver cyst.
- No evidence of pulmonary metastatic disease.

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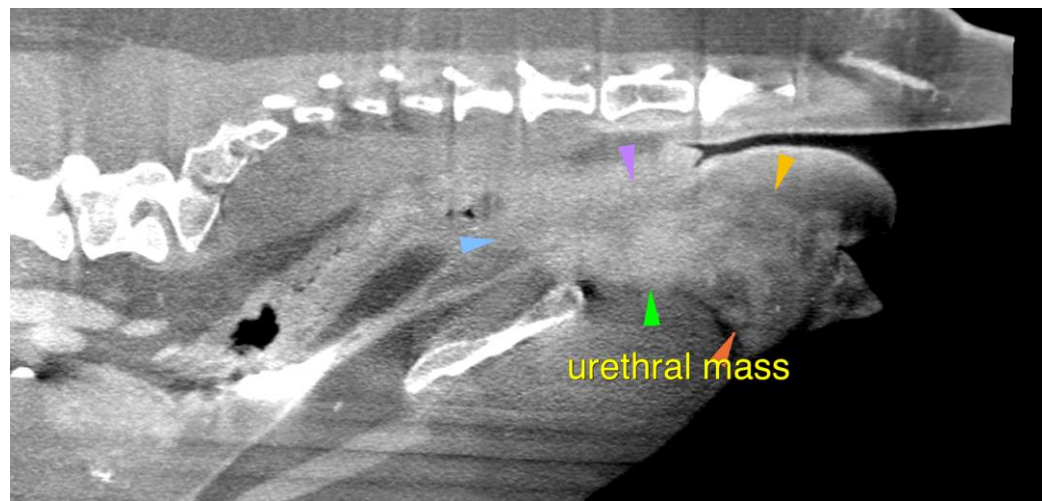
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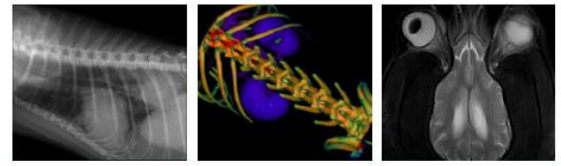
**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

The CT study confirms the presence of an ill-defined urethral mass. The CT findings strongly suggest infiltrative growth behavior and malignancy. Transitional cell carcinoma, squamous cell carcinoma, and other neoplasia of malignancy are the most likely differential diagnoses. At this time, the mass does not extend into the urinary bladder neck; however, a second lower urinary tract mass is seen in the right lateral urinary bladder wall. The differential diagnosis, again, includes transitional cell carcinoma, other carcinoma, and less likely fibrosarcoma or lymphosarcoma which have been described in the urinary bladder but typically present with differential CT features. At this time, the mass does not appear to involve the vesico-trigone and right ureteral orifice, however, it is close to the right ureteral orifice. No evidence of regional metastatic disease was found.

Differential diagnosis for the portal and epigastric lymphadenomegaly includes reactive hyperplasia, primary neoplastic infiltrate such as lymphomatous infiltrate, and less likely metastatic disease of one or both of the lower urinary tract masses. Consider fine needle aspiration for further definition.

The splenic findings suggest presence of benign nodular hyperplasia. Metastatic disease cannot be ruled out entirely but is thought unlikely.





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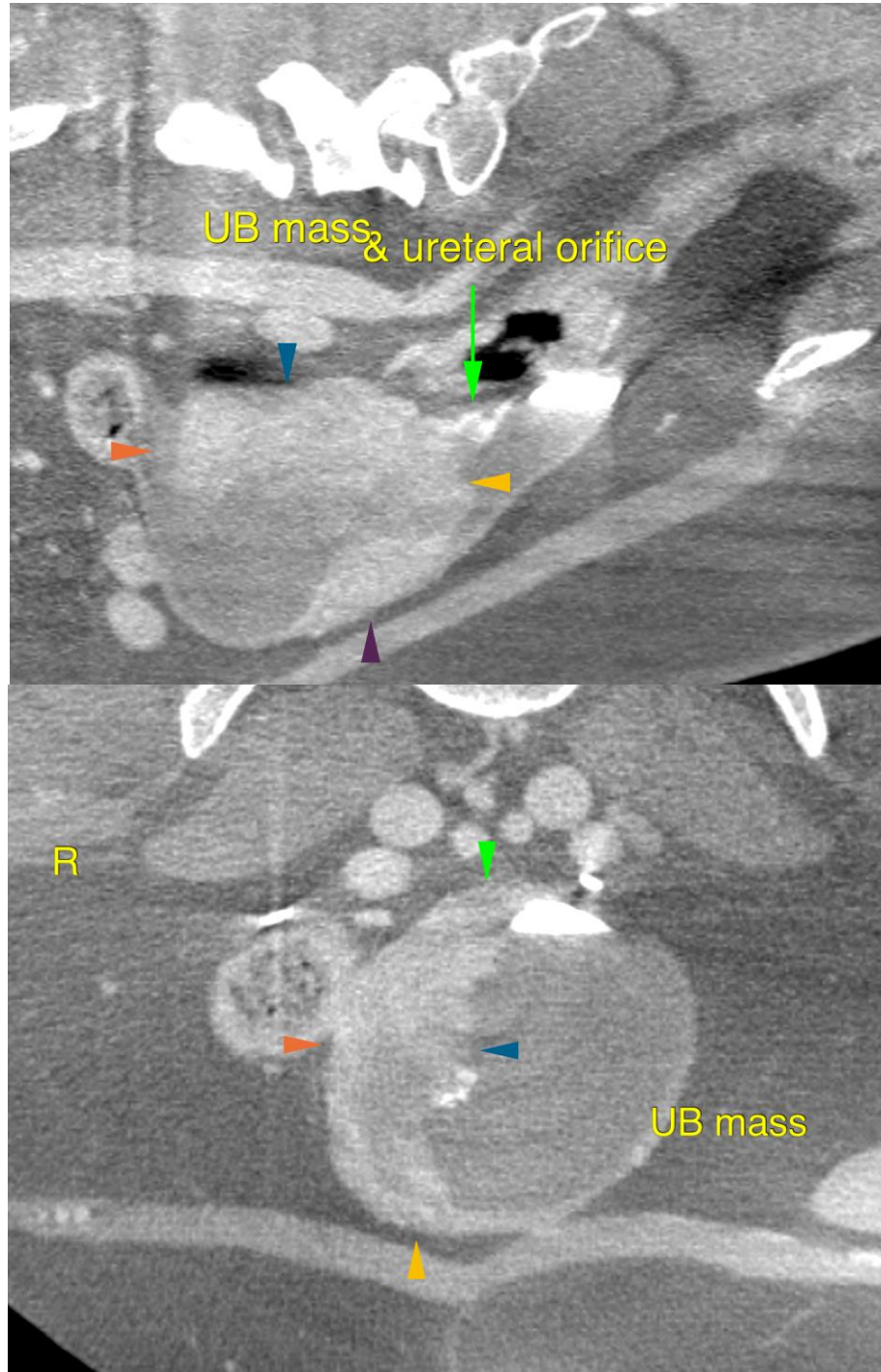
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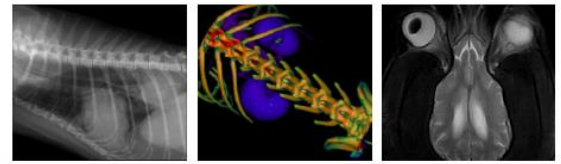
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

Thank you for this referral. If the clinical or image interpretation does not parallel your findings or if I can be of any further assistance please contact me.

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