



**PATIENT**

Bella Eckert

**SPECIES**

Canine

**BREED**

Shih Tzu

**SEX**

Spayed Female

**AGE**

13 Years

**WEIGHT**

15.5 Pounds

**INTERPRETED BY**

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

**IMAGING PERFORMED BY**

Lucas Budden

**HOSPITAL NAME**

Frontier VH

**REFERRING VET**

Lucas Budden

**INVOICE**

17348

**DATE**

9/18/22

**PRESENTING CLINICAL SIGNS**

History: 2/17/22 abdominal ultrasound done for PU/PD and inappropriate urination. See findings below. Hospitalized on IV fluids for the day to see if could pass ureterolith. Unsuccessful. Referred to specialty ER. Ultrasound performed by IM 4/12/22. See results below. Urinary (limited) ultrasound performed today to monitor for development of more uretero/cystoliths. Doing well at home currently. No pu/pd.

Abnormal PE/Chem/CBC/UA Results: 9/18/2022 pending cbc/chem 2/4/22 chem/cbc/T4 ALP high 712 Magnesium high at 3.1 Potassium high 5.9 Sodium potassium ratio low at 24 Cholesterol high 470 Triglyceride high at 264 Platelet high 937 AUS 2/16/22 Findings: Hyperechoic hepatomegaly, bilateral hyperechoic renal cortices, bilateral pyelectasia, decreased corticomedullary distinction, distal left ureterolith at entrance into bladder, mild left ureteral dilation, tiny cystic calculi, proximal urethral urinary stent, bilateral nephrolithiasis, bilateral hyperechoic adrenal nodules AUS 4/12/22 Findings: Assessment: Left ureterolith at the renal papilla - not appreciated today. Resolved ureteral ectasia. Ongoing mild pyelectasia Assessment: Tiny cystic calculi. Bladder wall normal thickness. History of tiny cystoliths in the past that have passed on their own - did not do well on s/o diet Assessment: Bilateral nephrolithiasis Assessment: Compulsive licking, chronic, acutely a bit worse Assessment: Resolved pu/pd and resolved inappropriate urination

**LIMITED ULTRASONOGRAPHIC EXAMINATION**

**Urinary System**

The **urinary bladder** revealed a slight wall thickening with subtle micropolypoid changes and a small nonshadowing concretion (0.19 cm). One ureteral papilla revealed a 3.0 mm calculus embedded in the distal urethral junction to the ureteral papilla, this likely is the left ureteral papilla. The right ureteral papilla appears to have some fibrosis or mineralization at the junction between the ureter and the ureteral papilla. This is not obstructive, as no dilated lumen is noted prior to the ureters. However, this should be monitored to assess if the calculus is able to be liberated into the bladder or not over the next 2-3 weeks. No evidence of active inflammation is present.

The **kidneys** revealed some moderate age-related loss of curvilinear patterns regarding the capsule and C/M junction. Nonobstructive corticomedullary calculi were present, measuring up to 0.31 cm in the right kidney and 0.19 cm in the left renal pelvis, as well as other corticomedullary mineralization. The left kidney was significantly dystrophic and subnormal in size, measuring 2.0 cm. Pyelectasia was noted in the left kidney, measuring 0.32 cm x 0.86 cm. Pyelectasia was also present in the right kidney. The right kidney measured 4.63 cm.

**ULTRASONOGRAPHIC FINDINGS**

- Moderate renal dystrophy in the left and mild in the right with moderate degenerative changes, pyelectasia and corticomedullary calculi (nonobstructive).
- Minor urinary bladder thickening and small urinary bladder concretions with ureteral calculus, appears stable.

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

The image sets were limited to the urinary tract. Inappropriate urination urinary history is likely owing to periodic passage of calculi. Even though no obstructive disease is noted at this time, the kidneys demonstrate secondary dystrophic changes typical of a history of obstructive nephrolithiasis/urolithiasis. Medical management is warranted. Blood pressure measurements are



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warranted. Frequent monitoring of BUN and creatinine and urine specific gravity, as well as inflammatory sediment all indicated. Renal oriented or geriatric oriented diet is indicated. I cannot evaluate if underlying Cushings disease may also be an issue without evaluating the adrenals and the remainder of the abdomen.

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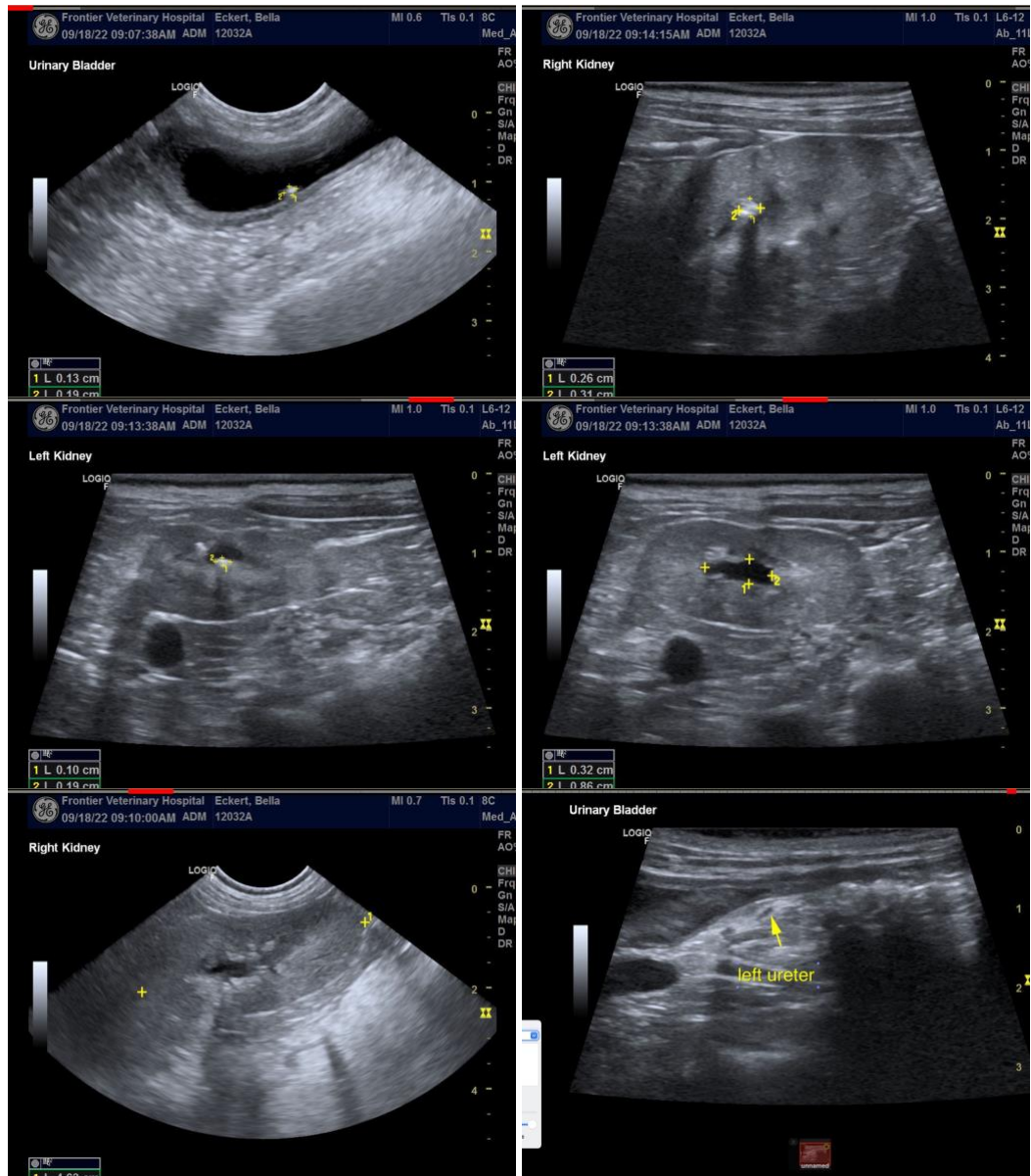
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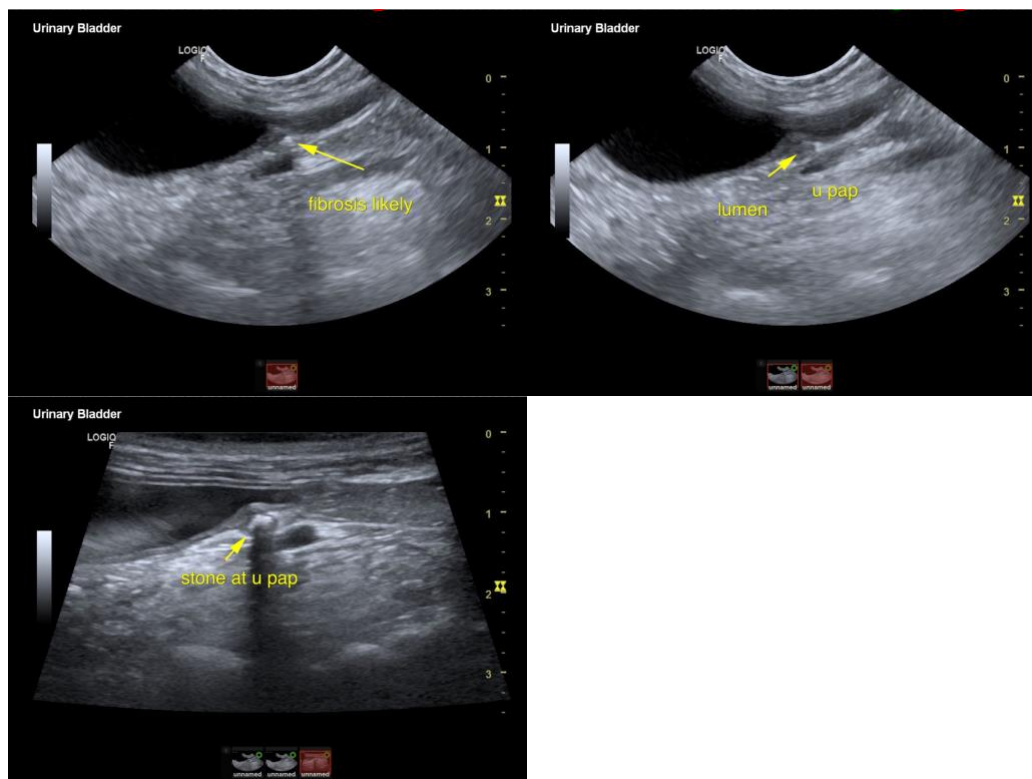
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

**Eric Lindquist**, DMV, DABVP, Cert. IVUSS, CEO of SonoPath.com  
info@SonoPath.com