



**PATIENT**

Priscilla McNabb  
Burke

**SPECIES**

Canine

**BREED**

Chihuahua

**SEX**

FS

**AGE**

15yr

**WEIGHT**

4.7kg

**INTERPRETED BY**

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

**IMAGING PERFORMED BY**

Dr. Kalenius

**HOSPITAL NAME**

Wilvet Salem

**REFERRING VET**

Dr. Kalenius

**INVOICE**

13133ag

**DATE**

03/07/2023

**PRESENTING CLINICAL SIGNS**

Presented night of 3/6 for hematuria and blood clots. History of bladder stones had been on urinary diet but now eating urinary care with HP.

Abnormal PE/Chem/CBC/UA Results: CBC PLT 730 k/ul all other values wnl. EPOC = iCa 1.52, LAC 6.02, GLU 158 mg/dl, Bicarb 28.2 mmol/L, pH 7.327 HCT 54% In-house UA = USG 1.030, PRO 500 mg/dl, BLD 250 ery/ul, LEU 500 /ul. Sediment > 50 WBC and RBC/hpf, no crystals or casts. Occ epi cells. R lateral abdominal radiograph - no obvious bladder stones - concern for nephrolithiasis / mineralization.

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

The urinary bladder revealed concentric wall thickening measuring up to 0.60 cm, most consistent with chronic cystitis. Minor potential for transitional cell carcinoma.

The kidneys revealed multiple calculi and cortical infarcts. Left kidney pyelectasia noted with cortical cysts. Blood flow was mildly subnormal on color Doppler. The left kidney measured 3.8 cm in length. The right kidney measured 4.75 cm in length.

**Adrenal Glands**

Both adrenal glands were visualized and recognized as having normal shape, size, position and echogenicity for this breed. The phrenic vasculature, glandular echogenicity and detail were unremarkable. Capsule, cortex, and medullary definition were normal for this age patient. The left adrenal gland measured 1.38 cm in length by 0.6 cm caudal pole width by 0.5 cm cranial pole width. The right adrenal gland measured 1.9 cm in length by 0.57 cm caudal pole width by 0.83 cm cranial pole width.

**Spleen**

The spleen presented a smooth homogeneous parenchyma hyperechoic to liver and renal cortical parenchyma. The capsule was smooth without noticeable expansion or deviation from within the spleen or adjacent pathology. The splenic vasculature demonstrated normal volume without signs of congestion or thrombosis. No sonographic evidence of acute or chronic inflammatory, neoplastic, or infarctual changes were noted.

**Liver**

Exam of the cranial abdomen demonstrated excessive liver size, swollen contour, with conserved uniform architecture. Parenchymal echogenicity was diffusely isoechoic to the spleen and falciform fat. Minor excessive GB debris was noted with the presence gall bladder dilation and precipitate without the overt formation of mucocele, but this may be an issue in the future. This type of liver presentation typically is associated with slow and gradual SAP elevations with low-grade ALT rise. USG-FNA sampling is encouraged if more aggressive LE profiles are present such as ALT > 200 or rapid rise in SAP. These presentations are usually reactive hepatopathies owing to other disease processes either endocrine (Diabetes, Hypothyroidism, Cushing's disease), "antigen surveillance" from the gut/pancreas, or idiopathic breed predisposed progressions.

**Gastrointestinal**

Examination of the gastrointestinal tract revealed a stomach and intestine free of stasis, of normal wall thickness, acceptable curvilinear mural detail, and peristaltic activity. Small and large intestine



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demonstrated normal luminal chyme and stool consistency respectively. No obstructive or overt infiltrative disease was noted. No associated abnormal lymphatic activity was noted.

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**Pancreas**

The base and limbs of the pancreas were observed to be largely isoechoic to surrounding omental fat. Some mild parenchymal remodeling, however, with mild deviation from curvilinear normalcy was observed. Pancreatic duct and capsular irregularities were present consistent with age related changes. If pain upon imaging (+ Murphy sign) was present or if the patient is focally painful in subxiphoid palpation then low-grade smoldering chronic pancreatitis should be suspected.

**BREED**

Chihuahua

**Free Abdomen**

No omental masses, overt lymphadenopathy or peritoneal effusion was present.

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FS

**ULTRASONOGRAPHIC FINDINGS**

**AGE**

15yr

- Chronic cystitis bladder pattern
- Renal dystrophy with nephrolithiasis, likely chronic pyelonephritis, moderate degenerative left kidney changes, mild right kidney changes
- Vacuolar hepatopathy pattern
- Remodeled pancreas

**WEIGHT**

4.7kg

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

A cytospin of a free catch urine sample is warranted to assess for transitional cell carcinoma. Cystoscopy and mucosal biopsies would be ideal. A urine C/S is warranted. 6-8 week antibiotic therapy preferably initially administered IV indicated for pyelonephritis to maximize pharmacodynamic penetration into the urinary tract. Enrofloxacin or 3<sup>rd</sup> gen Cefa suggested. Pulse antibiotic therapy may be necessary in this patient given the likelihood of chronic embedded infection within the left kidney.

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I recommend Enrofloxacin (5-10 mg/kg SID PO) (In patients > 1 year of age) in late pm after urination to maximize urinary concentrations overnight. This assumes that culture supports this use. Repeat culture at 3-4 weeks and continue treatment at least 7-10 days post negative urinary sediment and negative culture. Note: Negative culture does not necessarily mean lack of UTI. Other favorite antibiotics for chronic UTI include third generation Cefa (Ceftiafur or similar s.i.d. injectable) or Clavamox. If suspicion of occult urinary incontinence is present then phenylpropranolamine (PPA) (1-2 mg/kg BID) can be employed long term to enhance urethral tone.

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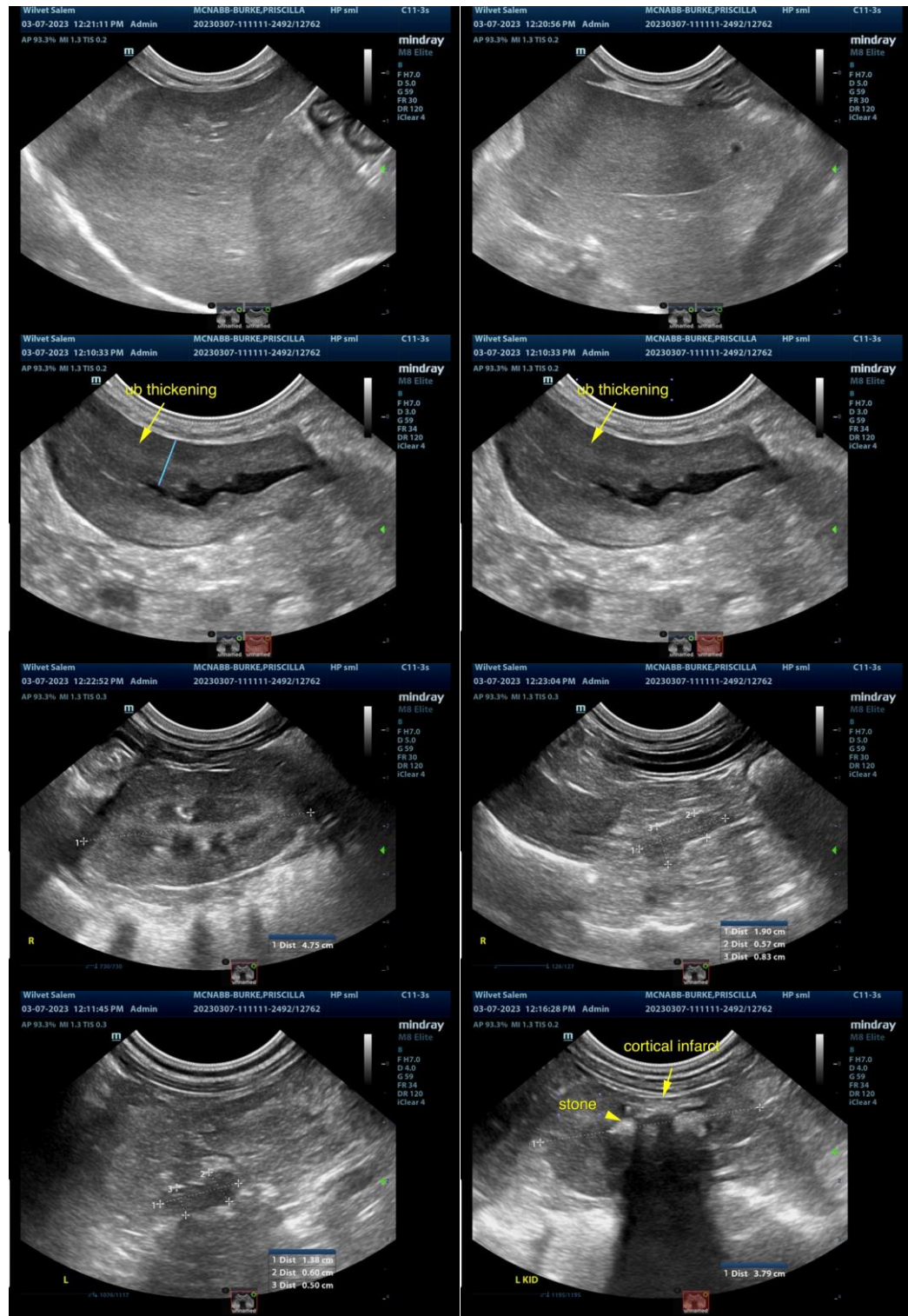
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

Thank you for this referral. If the clinical or image interpretation does not parallel your findings or if I



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can be of any further assistance, please contact me.

Priscilla McNabb  
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Eric Lindquist, DMV, DABVP, Cert. IVUSS, CEO of SonoPath.com  
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