



## PATIENT

Pepper Marrapodi

## SPECIES

Canine

## BREED

Boxer

## SEX

Spayed female

## AGE

4 years

## WEIGHT

46 lbs

## INTERPRETED BY

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

## IMAGING PERFORMED BY

John Ammeraal, DVM

## HOSPITAL NAME

Sova

## REFERRING VET

John Ammeraal, DVM

## INVOICE

71294

## DATE

2/6/26

## PRESENTING CLINICAL SIGNS

- Was initially noted to be straining to urinate since Tues AM. Appetite now decreased and lethargic.
- UA Tues confirmed UTI. Ran BW yesterday w cont anorexia/lethargy. Started Clavacillin on Tuesday
- Normal exam, gums subjectively slightly paler Glob 4.0g/dL, AST 74 U/L, ALT 200 U/L, ALKP 452 U/L SDMA 24.6UG/dL, Calc 12.9 mg/dL, Corrected calcium 13.7 WBC 2,300, Neutrophils 460/uL, monocytes 23/uL, Lymph 1817uL Platelets 49k,000/uL, Decreased, NRBC 16/100 WBC Mod anisocytosis USG 1.012, WBC 4-10 HPF, RBC > 50 HPF, UPC 3.1

## ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

### Urinary System

The **urinary bladder** presented a relatively uniform thickening of the cranioventral and craniodorsal mucosae with micropolypoid mucosal changes without involvement of the submucosae. The urine presented some echogenicity consistent with suspended debris. The urethra was not visualized. I cannot rule out deep pelvic urethral pathology. This presentation is most consistent with chronic cystitis. Technically transitional cell carcinoma cannot be ruled out without histopathological review but is not overtly suspected based on this pattern. Cystocentesis and urine culture +/- pathological review of urine cytology would be warranted. No overt calculi were present at this time.

The **kidneys** revealed normal size and structure, corticomedullary definition and ratio for this age. The cortices presented largely uniform texture with normal echogenic relationship to liver and spleen. Medullary structure differed distinctly from the cortex and no evidence of pelvic dilation was present. The caudal pole of the left kidney revealed an echogenic cyst that measured 1.5 cm with a focal calculus within it. There is a potential that this is a renal abscess. An adjacent infarct was noted with inflammation. The left kidney measured 5.95 cm. The right kidney measured 7.44 cm.

The iliac lymph nodes were reactive and measured up to 2.0 x 0.5 cm.

### 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 right adrenal gland measured 2.47 x 0.73 cm at the caudal pole and 0.8 cm at the cranial pole. The left adrenal gland measured 1.56 x 0.56 cm at the cranial pole and 0.41 cm at the caudal pole.

### Spleen

The **spleen** revealed minor, focal, hypoechoic nodular changes that were non-disruptive and measured up to 1.0 cm.



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## Liver

The **liver** images submitted revealed subjectively normal liver size, contour, and structure. Parenchymal echogenicity was naturally coarse and hypoechoic to the spleen. Vascular and biliary tracts were of normal volume with no evidence of congestion. The gallbladder presented acceptably thin walls with primarily anechoic content. The cystic and common bile ducts were normal. No pathological hepatic lymphadenopathy was evident. No overt structural evidence of inflammatory, infiltrative or regenerative pathology was evident.

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

## Pancreas

The base and limbs of the **pancreas** were observed to be largely isoechoic to surrounding omental fat. Pancreatic duct and capsular contour were acceptably normal and parenchyma respected normal curvilinear patterns. No overt evidence of active inflammatory or neoplastic disease was noted.

## ULTRASONOGRAPHIC FINDINGS

Cystitis pattern with left renal echogenic cyst or possible abscess with an adjacent infarct.

Nodular hyperplasia splenic pattern.

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Management for chronic UTI is indicated over a 3 week period. FNA of the splenic nodules and ultrasound-guided drainage and culture of the renal cyst would be appropriate. However, the cyst or abscess may resolve on medication management alone.

### Canine Chronic UTI Protocol

**To be utilized for UTI with chronic urinary tract changes found sonographically that may serve as nidus of infection and history of chronic or recurrent UTI is an issue.**

I recommend Clavamox as a first level approach to chronic UTI at 12.5-25 mg/kg bid owing to optimal urinary concentrations. If bacterial resistance is an issue then **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



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then **phenylpropanolamine (PPA)** (1-2 mg/kg BID) can be employed long term to enhance urethral tone.

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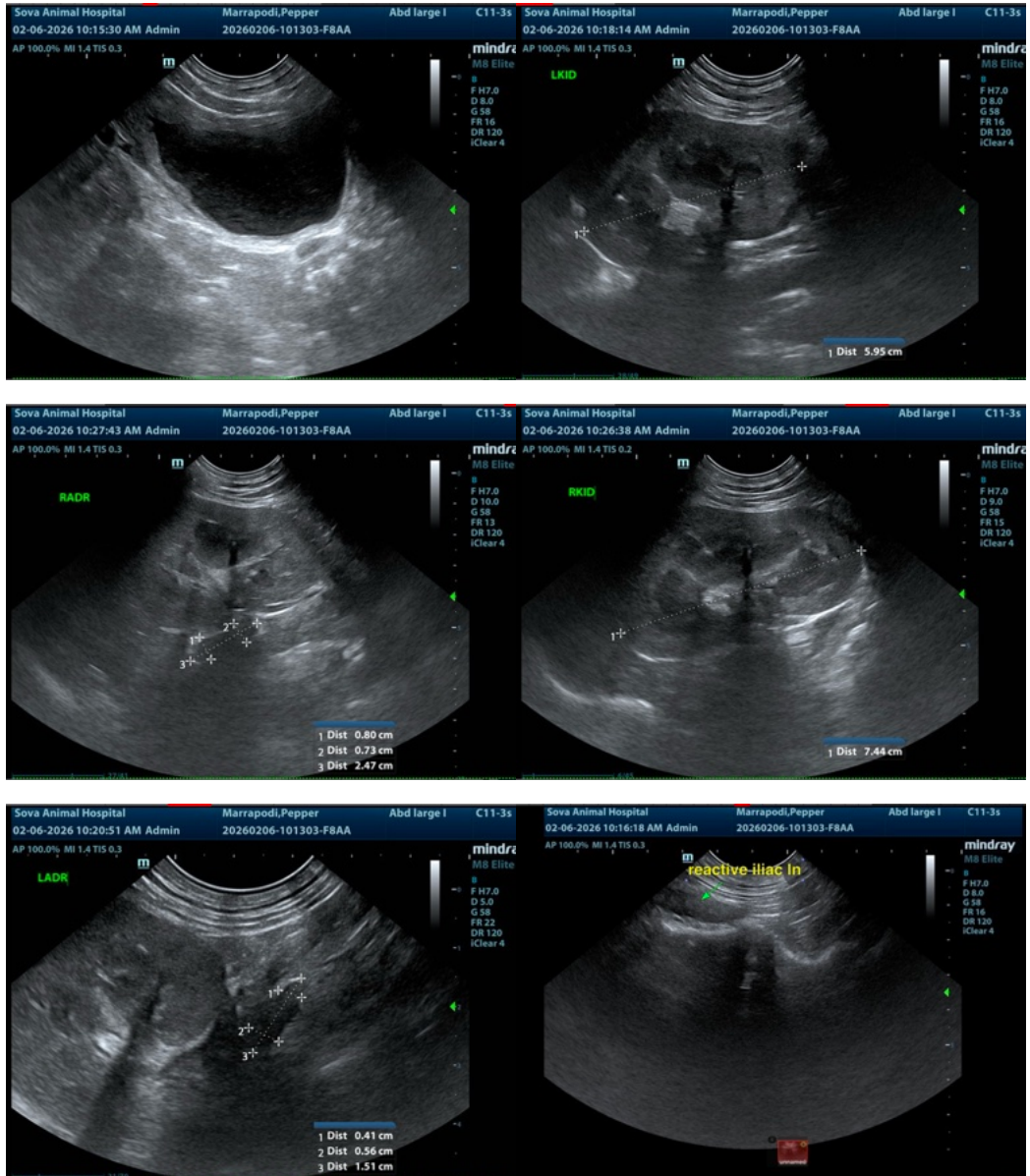
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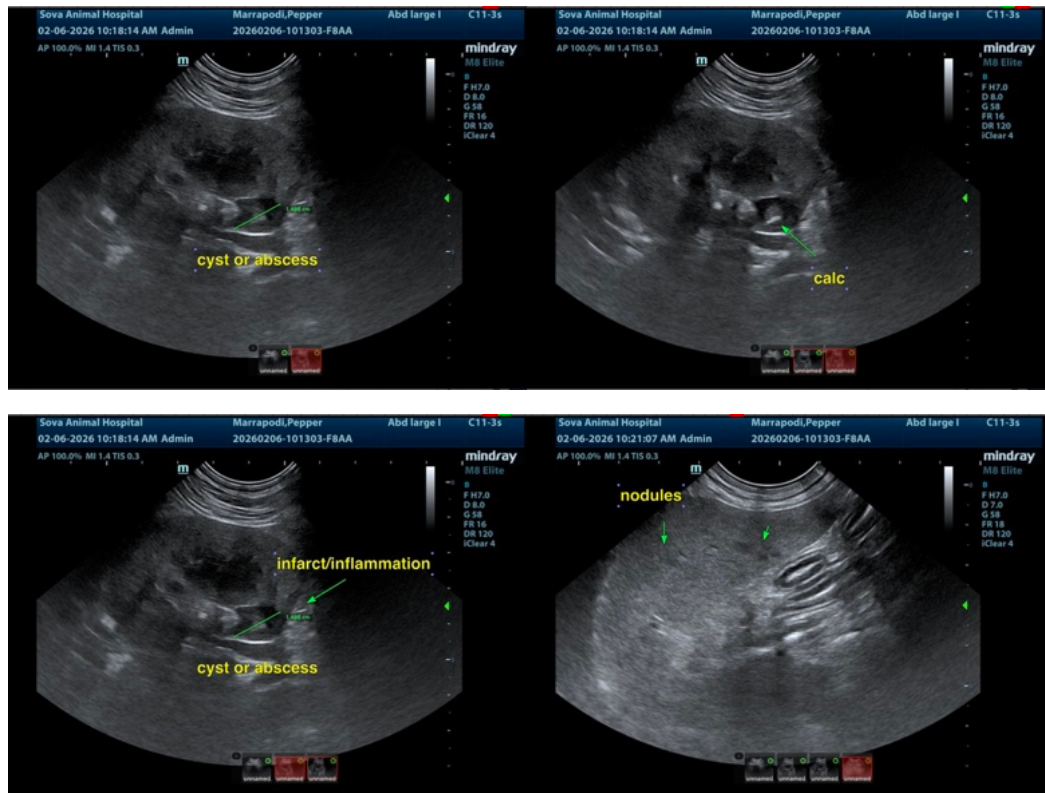
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Eric Lindquist, DMV, DABVP (CFM), Cert. IVUSS, CEO of SonoPath.com

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