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Clinical Sonography & Telecytology
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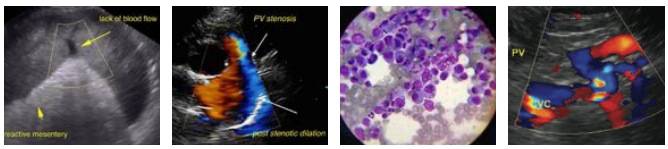

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1-800-838-4268 info@sonopath.com

PATIENT

Nutmeg Perreault

SPECIES

Canine

BREED

Australian Shepherd
Husky mix

SEX

Spayed female

AGE

1 year

WEIGHT

33.8 lbs

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Dr. Jagger

HOSPITAL NAME

VCA Parkway AH

REFERRING VET

Dr. Jagger

INVOICE

39644

DATE

9/27/22

PRESENTING CLINICAL SIGNS

History: Intermittent UTIs but also hematuria with neg bacterial culture. First UTI at 3 months of age. Second confirmed UTI about 10 months later but had some hematuria that resolved on its own twice in that time period and some incontinence that also resolved. Vulva is tucked up. Recent hematuria prompted urine bacterial screen that was neg along with UA (see below). That was last week and the bladder wall appeared thick but bladder was not full of echogenic material like it is today.
Abnormal PE/Chem/CBC/UA Results: Collection Method Cystocentesis Color Dark Yellow Appearance CLOUDY Specific Gravity 1.058 (1.015 - 1.05) pH 7.5 (5.5 - 7) Protein 3+ (Negative) Urine protein:creatinine ratio testing is recommended (if the sediment is inactive) to help determine the clinical significance of proteinuria. Glucose-Strip NEGATIVE Negative Ketones NEGATIVE Negative Bilirubin 1+ NEG TO 1+ Occult Blood 3+ Negative WBC NONE 0-3/HPF RBC 11-20 0-3/HPF Casts NONE SEEN Hyaline 0-3/LPF Struvite (Triple P04) Crystals 0-1 Bacteria NONE SEEN None seen/HPF Epithelial Cells NONE SEEN/HPF

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The **urinary bladder** wall was largely unremarkable with minor micropolypoid changes. A large amount of sand and suspended debris was noted. Sand accumulation measured 2.5 cm and was non-obstructive at the time of the sonogram. Urethral sand was also present. The urethral wall was mildly thickened. No evidence of inflammatory or neoplastic changes was noted. Ureteral papillae were normal.

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 capsules were acceptably uniform without significant irregularities. The left kidney measured 6.58 cm with trace pyelectasia.

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 0.39 cm. The right adrenal gland caudal pole measured 0.53 cm and the cranial pole measured 0.8 cm.

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 was noted.

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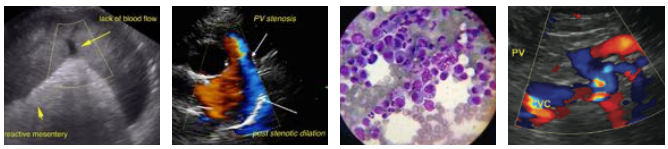

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Liver

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. There was no overt evidence of shunting nor suspected given the normal hepatic size and vascular volume. 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

A minor amount of non-shadowing, non-obstructive ingesta was noted in the stomach. Transit of chyme into the small intestine was normal. Curvilinear patterns were maintained throughout the GI tract. No evidence of pathology. 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.

Free Abdomen

The iliac trifurcation was unremarkable.

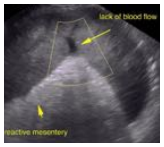
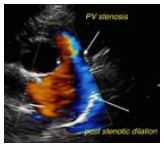
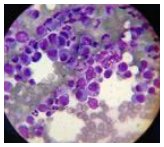
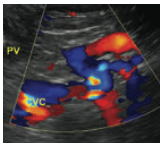
ULTRASONOGRAPHIC FINDINGS

Bladder and urethral sand and debris.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Either direct cystotomy, bladder sand analysis and culture would be warranted with normal and retrograde flushing of the lower urinary tract or medical management with potential aggressive IV fluid protocol to help liberate the sand from the urinary bladder with culture and sensitivity and possibly 6 week antibiotic therapy may be necessary. Predisposing issues such as recessed vulva and urine pooling should be evaluated.

Canine Chronic UTI Protocol
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

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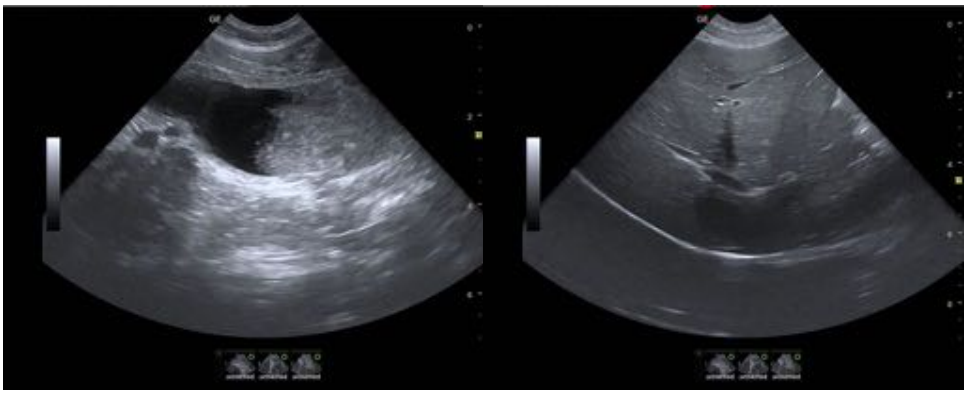
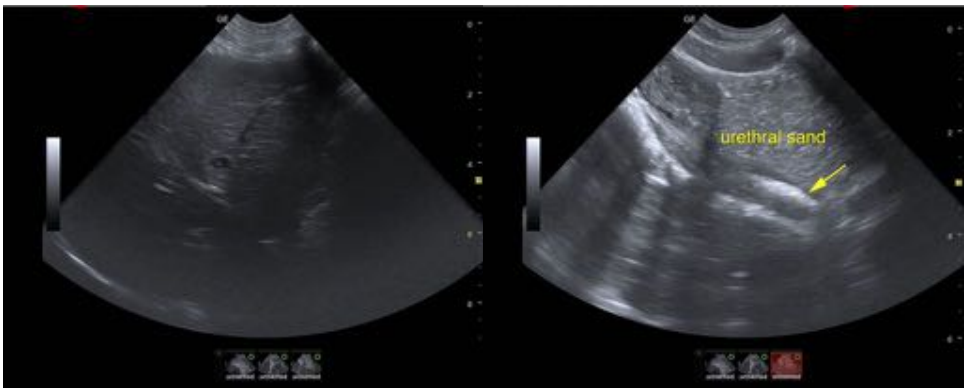
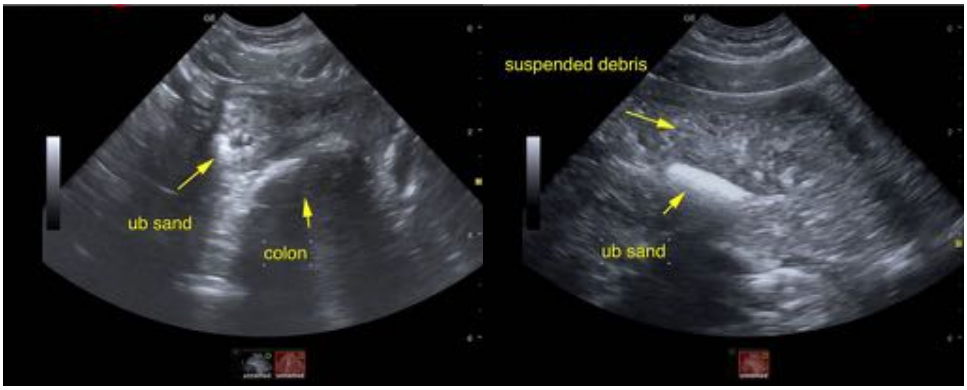
antibiotics for chronic UTI include third generation Cefa (Ceftiafur or similar s.i.d. injectable) or Clavamox. If suspicion of occult urinary incontinence is present then **phenylpropanolamine (PPA)** (1-2 mg/kg BID) can be employed long term to enhance urethral tone.







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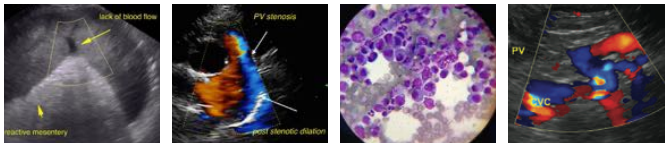

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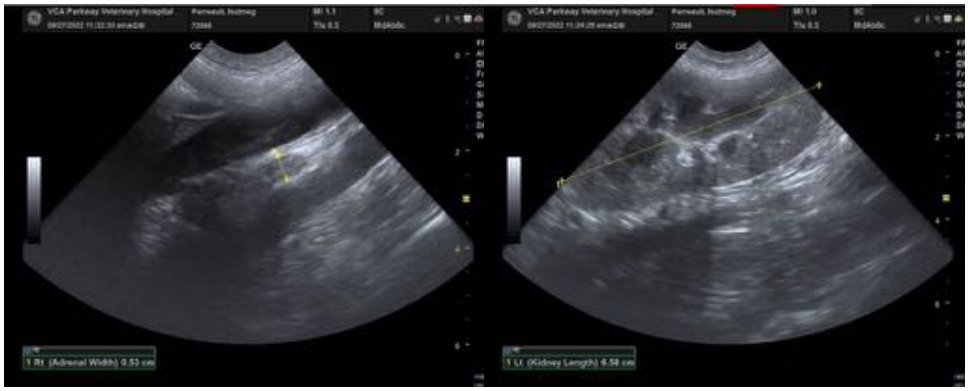

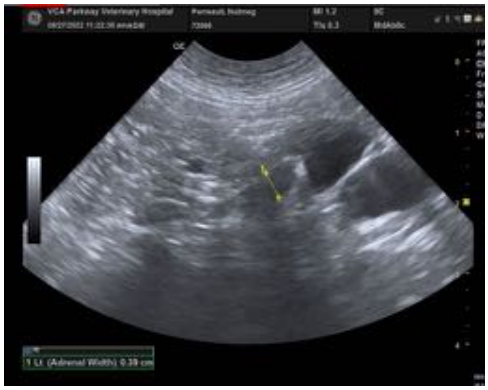

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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

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