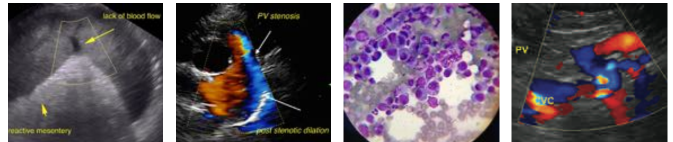
SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



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

PATIENT

Leo Velazquez

SPECIES

Canine

BREED

Husky

SEX

Intact male

AGE

6 weeks

WEIGHT

4 lbs

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Amanda Crook SDEP
Certified Clinical
Sonographer

HOSPITAL NAME

Rivers Edge Pet
Medical Center

REFERRING VET

Dr. Hollomon

INVOICE

91210

DATE

8/13/21

PRESENTING CLINICAL SIGNS

History: presents for straining to urinate, vomiting, diarrhea. was seen at ER clinic last night for same issue, diagnosed with bladder obstruction but no stones found at that time. no x-rays or blood work performed. bladder was emptied with red rubber, hematuria obtained, noted struvites and severe infection. parvo test negative. given convenia, cerenia, gabapentin. today pt is straining to urinate again, still havign diarrhea. no more vomiting noted. bladder large, firm, painful on exam. hematuria staining on fur. pt is depressed/lethargic. there is a palpable stone just distal to the os penis (this is confirmed on FAST scan). Medications: convenia and cerenia were given as injections yesterday evening. pt is on gabapentin
Abnormal PE/Chem/CBC/UA Results: RBC 3.92, HCT 22.8%, HGB 8.2, MCV 58.2, MCH 20.9, reticulocytes 127, retic-HGB 22.1. neutrophils 6.75 with suspected bands, monocytes 2.04. mild hypoglycemia (71), creatinine 0.2, TP 4.5. BUN was WNL. See attached radiographs - significant lack of serosal detail in abdomen. suspicion for single urolith in proximal urethra. no obvious thoracic abnormalities noted.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The **urinary bladder**, trigone, and pelvic urethra presented normal thicknesses and normal tone. The ureters were not visible which is normal. No uroliths or sediment were visualized and anechoic urine was present. No evidence of inflammatory or neoplastic changes was noted. Ureteral papillae were normal.

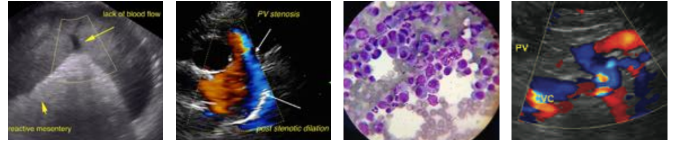
The left **kidney** revealed pyelectasia, swollen contour and loss of corticomedullary definition. The left kidney measured 5.88 cm and pyelectasia measured 2.0 x 1.0 cm. The left ureter was dilated to 0.54 cm. The pelvic urethra revealed a calculus that measured 0.41 cm. Urethra calculus was embedded approximately 1.8 cm distal from the cystourethral junction. Other sand was noted in the bladder with suspended debris and echoes may represent gas accumulation. The right kidney also revealed pyelectasia and calculi. Pyelectasia measured 2.0 x 1.5 cm. There was echogenic debris and calculi.

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 1.87 x 0.74 cm at the cranial pole and 0.44 cm at the caudal pole.

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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Liver

The **liver** images submitted revealed subjectively normal liver size, contour, and structure. Parenchymal echogenicity was naturally coarse and hypoechoic to the spleen. Portal vein to vena cava ratio was 1:1. There was no evidence of intrahepatic or extrahepatic shunting. However, portal hypertension is a possibility. The portal vein at its branches measured 0.5 cm, vena cava 0.5 cm with a 1:1 ratio. There was no evidence of portosystemic shunting. The right central and left branches of the portal vein were all identified. There was no evidence of shunting. However, the liver was subnormal in size. The gallbladder presented a mild amount of sand that was non-obstructive at the time of the sonogram.

Gastrointestinal

The **stomach** was mildly thickened with fluid filled lumen. . The small intestine and colon were unremarkable.

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

Severe pyelonephritis and obstructive ureterolithiasis.

Bilateral pyelonephritis renal pattern with obstructive urolithiasis.

Concurrent gastritis. Underlying metabolic issues are likely in this patient given the early formation of calculi.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Urine culture and sensitivity and sand analysis is warranted. Bile acid profile is warranted. CT evaluation would be ideal. Surgical de-obstruction either through traditional or interventional radiologist methods would be appropriate. 72 hour IV fluid protocol, urine culture and sensitivity is recommended. Sedation with catheter passage to the pelvic urethra to de-obstruct the pelvic urethra would be appropriate. Traumatic catheterization may allow for further information on inflammatory cell type and sand accumulation as well as anaerobic and aerobic culture. The prognosis is guarded; however, it may be manageable from an immediate surgical, but long term medical management depending on the type calculi present and identifying any underlying metabolic issues in this patient. If surgery is to be performed liver biopsy would be appropriate to rule out portal hypoplasia.

IMHA/Infectious Anemia/Thrombocytopenia/Evans Syndrome
(*Note: ensure no underlying neoplasia as IMHA/Evans syndrome can occur as paraneoplastic manifestation especially in lymphoma/round cell neoplasia***)**

Anemia +/- thrombocytopenia with spherocytes/autoagglutination in dogs and hyperbilirubinemia, bilirubinuria. (*NOTE: cats do not get spherocytes in IMHA*)
Consider Onion/Garlic derivative ingestion if Heinz bodies present.

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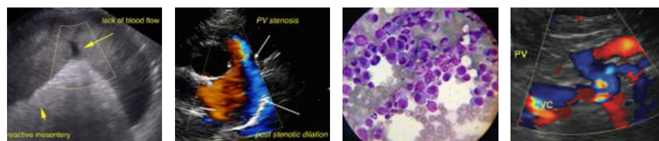

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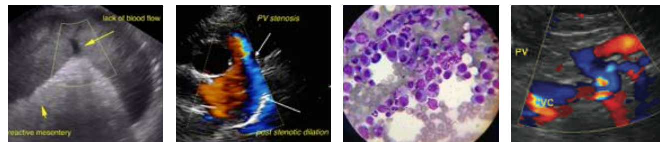
Prednisone (K9) Prednisolone (Feline): 2 mg/kg Sid/Bid initially x 3 weeks then attempt taper
Aspirin 0.5 mg/kg Sid owing to hypercoagulable state
Sucralfate 0.5-1 g po tid dogs, 0.5 g bid cats in slurry
Doxycycline if infectious suspected clinically or based on CBC path review:
Dogs, Cats: 10 mg/kg p.o. q24h with food or water bolus in cats

Long-term management dogs: Azothiaprine 2 mg/kg Sid or Cyclosporine 10mg/kg po sid bid



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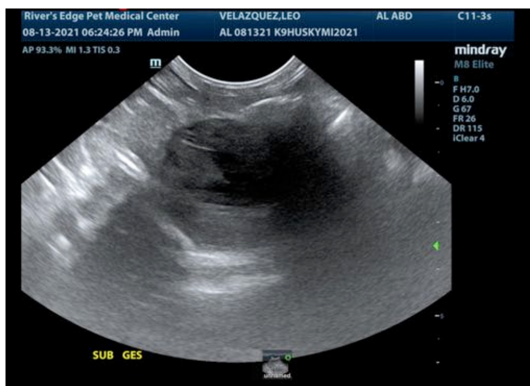

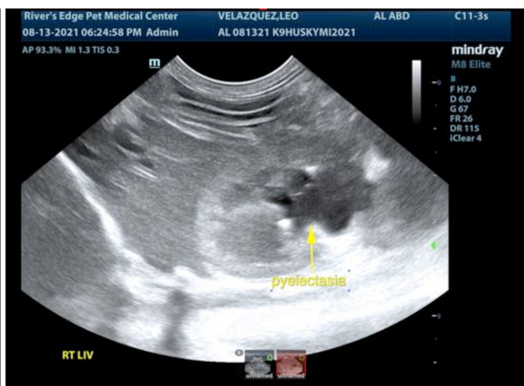

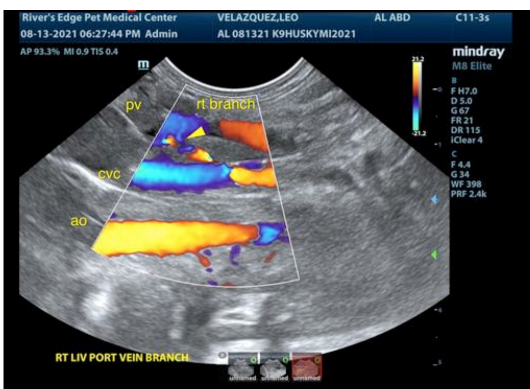

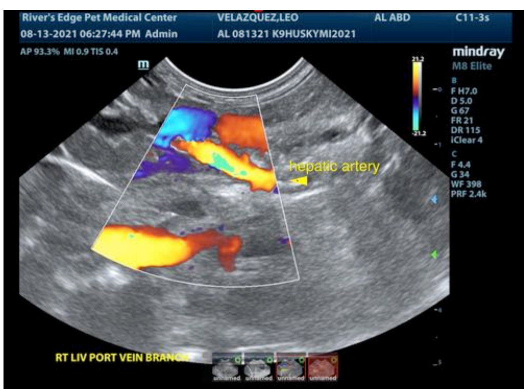

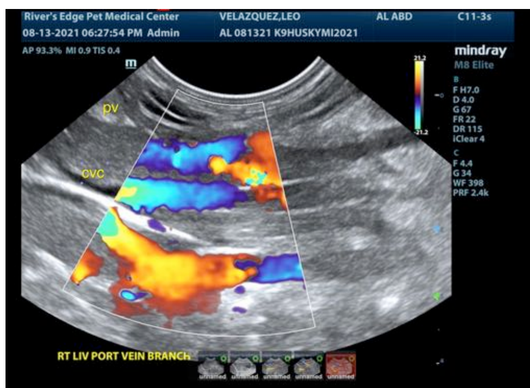

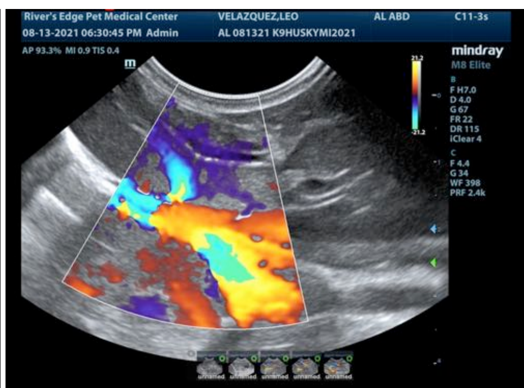

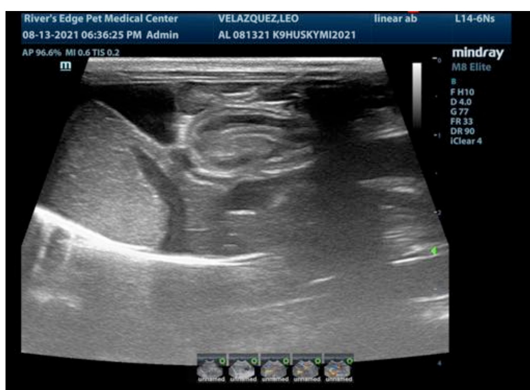

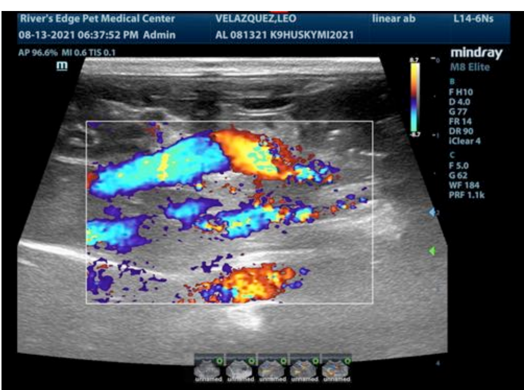

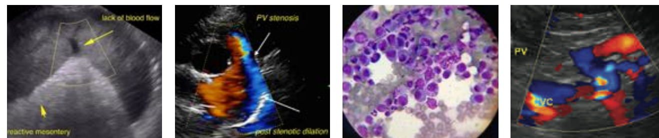

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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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