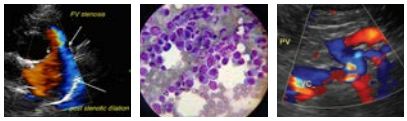
IMAGING PERFORMED BY

IntraPet.com



SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™
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DATE

4/26/23

PATIENT

Diego Augustine

SPECIES

Feline

BREED

DMH

SEX

Neutered Male

AGE

6/22/22

WEIGHT

6.4 Pounds

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUSS

HOSPITAL NAME

Westminster VH

REFERRING VET

Dr. Hall

INVOICE

46922

PRESENTING CLINICAL SIGNS

Pet presented as a second opinion. Pet has been thoroughly worked up by neurologist for seizures over the last couple of months. MRI, CSF samples and medication trials have shown no improvement for pet. Owner describes pet will have these seizure like episodes especially after eating. There was suggest a concern for liver shunt so abdominal US was elected.

Current Medications: No medications at this time. Previously on Keppra and phenobarbital but owner has discontinued these
Lab Results: 4/21/23: CBC: MCV: 35fL (39-56); MCH: 12.3pg (12.6-16.5); Retic HGB: 14.3pg (15.3-22.9); Lymphocytes: 7.626K/uL (0.85-5.85); basophils: 0.123K/uL (0-0.1); Chemistry: BUN: 14mg/dL (16-37); Sodium: 158mmol/L (147-157); ALP: 76U/L (12-59); Urine: SG: 1.050; Protein 2+; RBCs: 6-10/HPF; 2+ epi cells; 3+ ammonium mg phosphate crystals
Date of Previous IntraPet Ultrasound: No previous.
Sedation: Not required to complete full diagnostic ultrasound.
Stat Report: Requested/Approved.
Imaging Performed By: Stephanie Warga RDCS, RVT.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The **urinary bladder** presented a small amount of sand and suspended debris. Urethral sand also noted.

The **kidneys** were mildly swollen. The right kidney measured 4.05 cm. The left kidney measured 4.06 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 left adrenal gland measured 0.30 cm.

Spleen

The **spleen** presented a smooth homogeneous parenchyma hyperechoic to liver and renal cortical parenchyma. The spleen was folded upon itself caudally. 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

The **liver** was coarse in architecture. Relatively normal size but with irregular contour. The gallbladder and common bile duct were unremarkable. Common bile duct measured 2.0 mm.

The vena cava/aorta ratio was 1:1 at 0.5 cm at the level of the portal hilus. The portal vein was followed to the portal hilus, and a short 5.0 mm long x 6.0 mm wide intrahepatic shunt appeared to be present entering into the vena cava in the position of a right divisional intrahepatic shunt. This should be confirmed by CT. The abnormal vessel was tortuous, as would be suspected, and appears to be intrahepatic, just cranial to the portal hilus.

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.

Free Abdomen

Reactive mesenteric lymph nodes noted.

ULTRASONOGRAPHIC FINDINGS

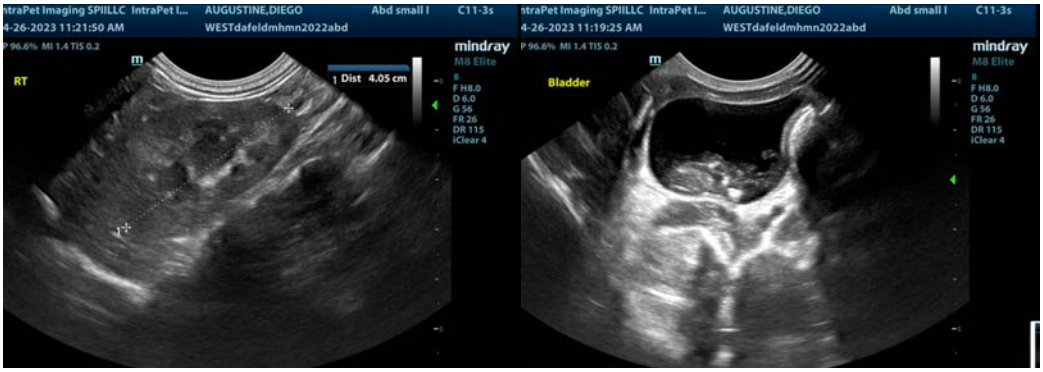
- Intrahepatic shunt – suspect right divisional shunt.
- Reactive mesenteric lymph nodes
- Small amount of bladder and urethral sand.
- Mildly swollen kidneys.

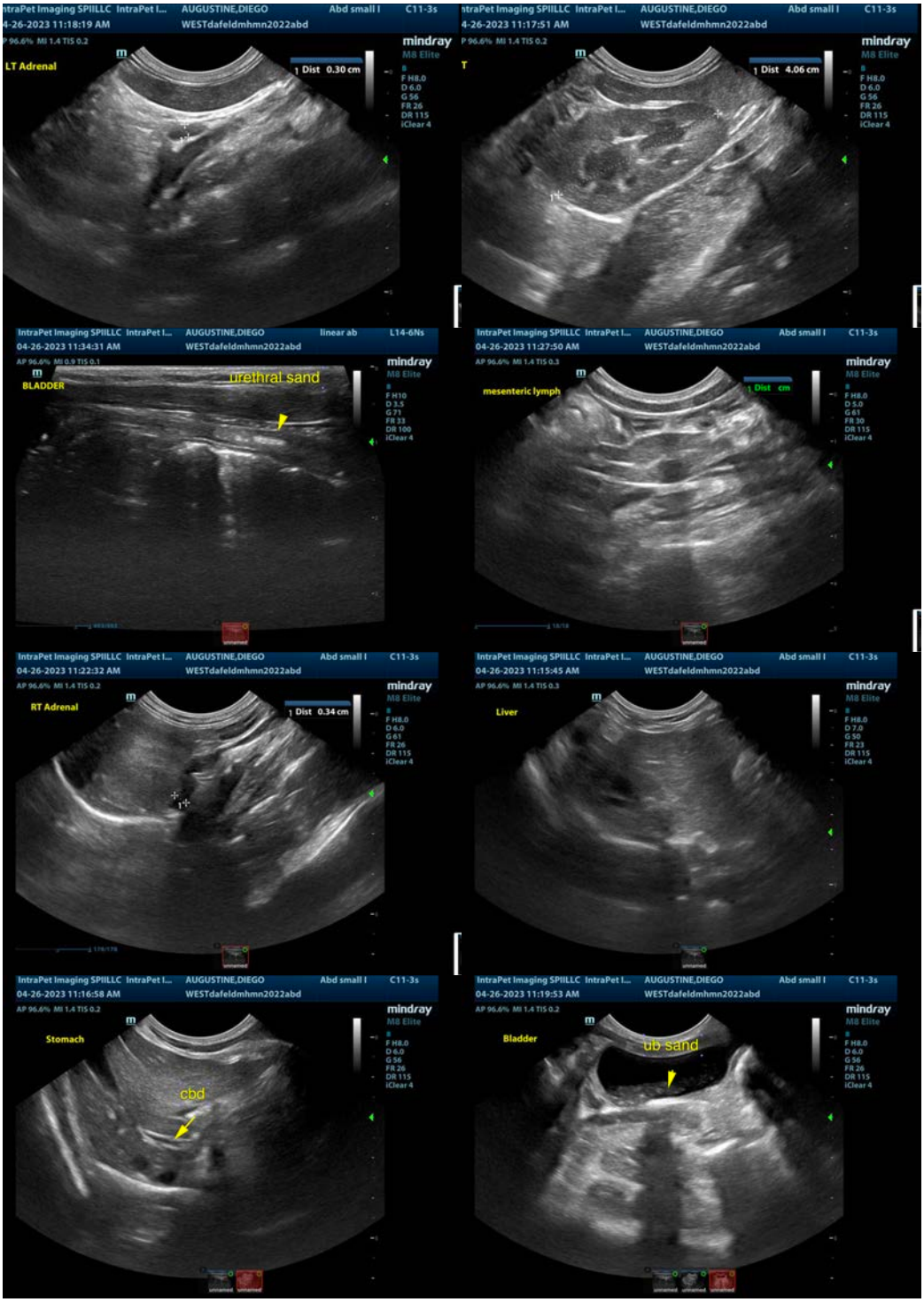
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

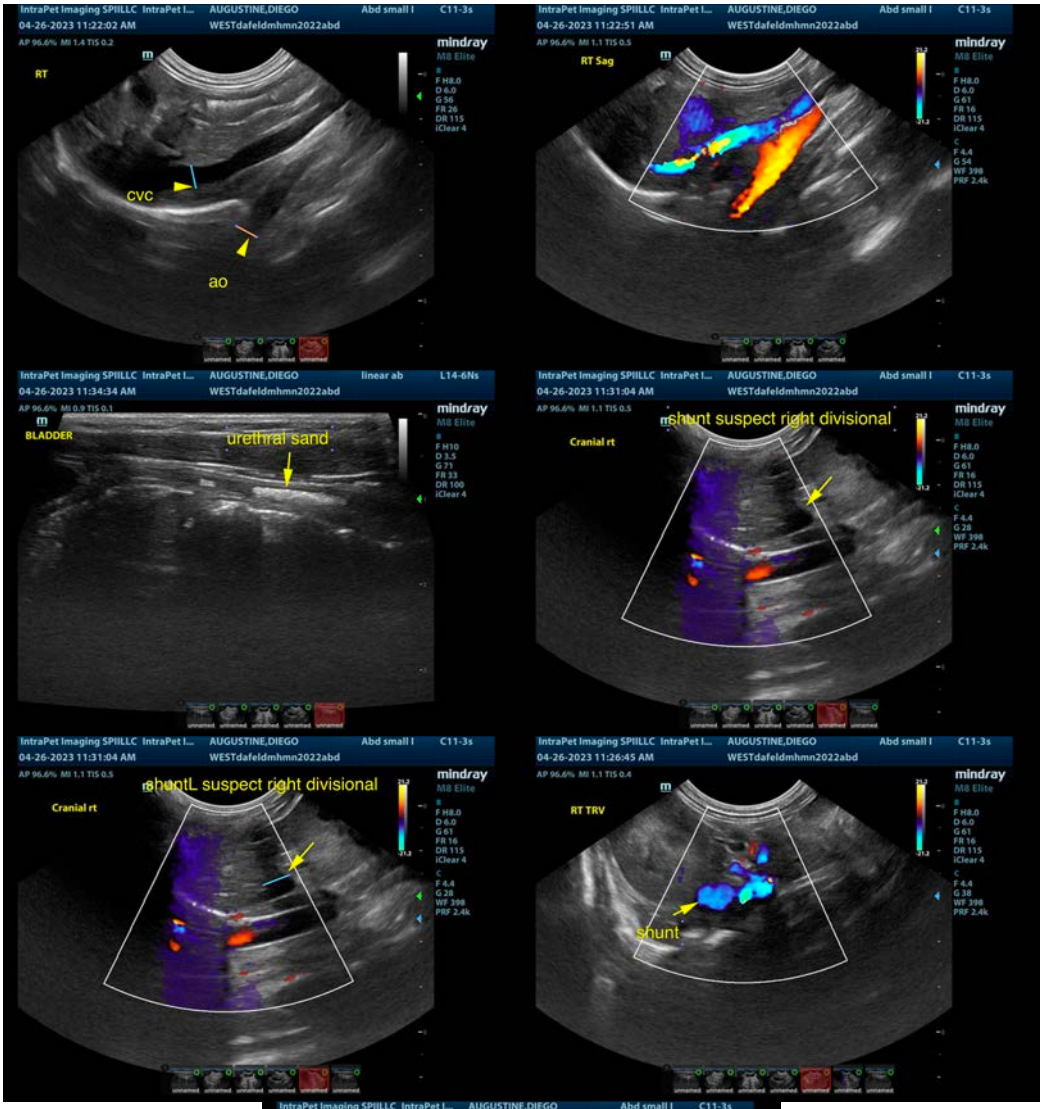
CT evaluation warranted for further definition. Referral to interventional surgeon for potential vascular plug recommended. Bile acid profile if not already performed. I'm expecting post-prandial bile acids >100. Medical management with the following may prove effective. Eventual cystotomy with normo- and retrograde urethral flushing recommended with sand analysis expected to biurate.

Hepatic Support for Bile Acid Elevation +/- Hepatic Encephalopathy

Royal Canin Hepatic Support diet or Hills L/D, **Metronidazole** (7.5 mg/kg PO bid) over the next 14 days, **Lactulose** (Oral: 3.1-3.7 g/5 ml lactulose in a syrup base) long term to target 2-3 soft stools/day, with a **high-quality protein supplement** of minor amount of **yogurt** or **cheddar cheese**. Monitor bile acids, with attention paid to dropping albumin, BUN or cholesterol. SAMe and nutraceuticals as needed. **Ursodiol (**10-15 mg/kg p.o. q24h) can be considered as hepatoprotectant and to enhance bile flow. **Zinc** serum level keep between 200—500 ug/dl. If deficient then Tx zinc acetate 1-3 mg/kg/day. Gastrointestinal protectants are recommended if the patient is anorexic.




LT Adrenal
Dist 0.30 cm
T
Dist 4.06 cm
BLADDER
urethral sand
mesenteric lymph
RT Adrenal
Dist 0.34 cm
Liver
Stomach
cbd
Bladder
ub sand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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