



PATIENT

Lulu Salzarulo

SPECIES

Canine

BREED

Pug

SEX

Spayed Female

AGE

2 Years 3 Months

WEIGHT

24.6 lbs

INTERPRETED BY

Eric Lindquist, DMV,
 DABVP(CFM), Cert.
 IVUSS

IMAGING PERFORMED BY

Chloe Lowe CVT

HOSPITAL NAME

William Penn
 Veterinary Hospital

REFERRING VET

Dr. Bouzaout

INVOICE

15921

DATE

05/07/26

PRESENTING CLINICAL SIGNS

Liver shunt suspected. Presented ADR. Staring into space/confusion. (+/- seizure). Loss of appetite. Carprofen 25mg PRN

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 were 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 4.24 cm in length. The right kidney measured 4.91 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 1.67 cm x 0.38 cm width at the cranial pole and 0.36 cm width at the caudal pole. The right adrenal gland measured 1.64 cm x 0.47 cm width at the cranial pole and 0.41 cm width 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 were noted.

Liver

The **liver** presented subnormal in size with mildly increased portal markings and fairly uniform parenchyma. The portal vein at its termination is normal in size measuring 0.60 cm. The vena cava measured 0.70 cm. No evidence of extrahepatic or intrahepatic shunting. Hepatic vein inflow to the vena cava within the liver parenchyma was normal. The gallbladder and common bile duct were unremarkable.

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.



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Pancreas

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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.

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ULTRASONOGRAPHIC FINDINGS

BREED

Pug

- Minor microhepatica with slight hepatic remodeling- cannot rule out microscopic shunting.

SEX

Spayed Female

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

If bile acid elevations are present, then portal hypoplasia may be an issue and will necessitate liver biopsy. If bile acids are elevated, then surgical liver biopsy is indicated. Otherwise, a full CNS examination +/- skull CT would be appropriate.

AGE

ABOUT SONOPATH CT SERVICES:

2 Years 3 Months

SonoPath CT Services are offered at the SonoPath Imaging and Veterinary Education Center, 141 Main St (rt 206), Andover, New Jersey, a 20-minute drive west on route 80/206 North from the route 80/287 interchange/Parsippany, New Jersey. More information can be found at <https://sonopath.com/services/sonopath-ct-services>

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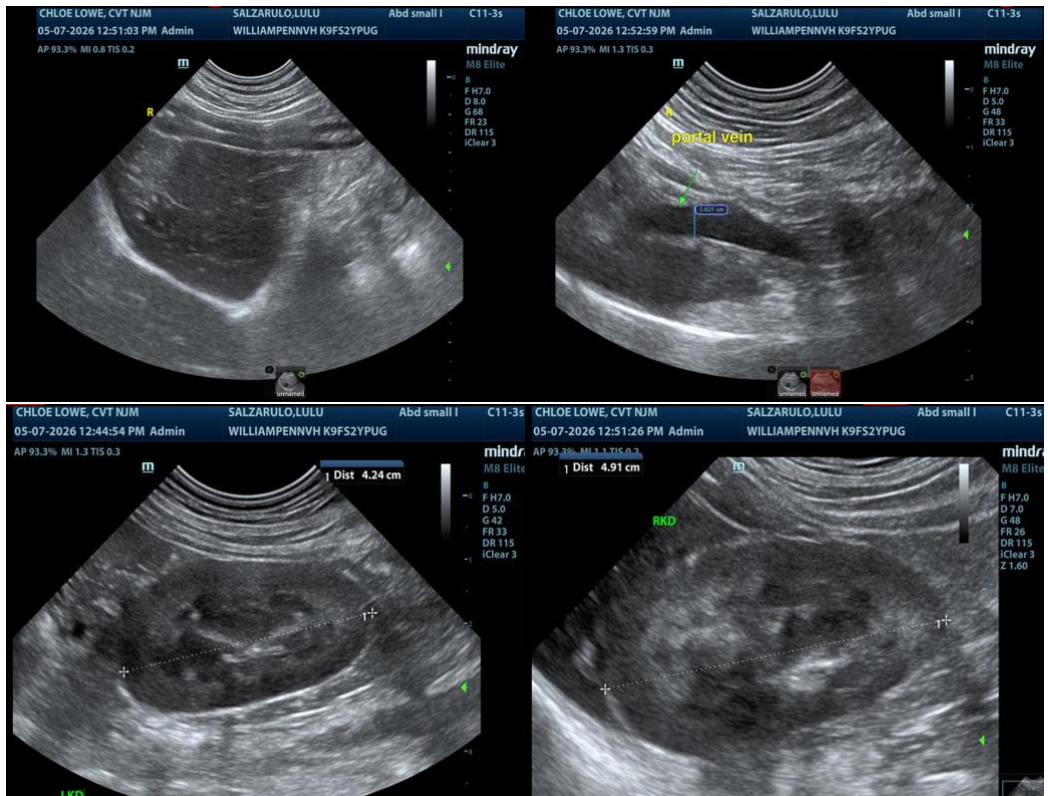
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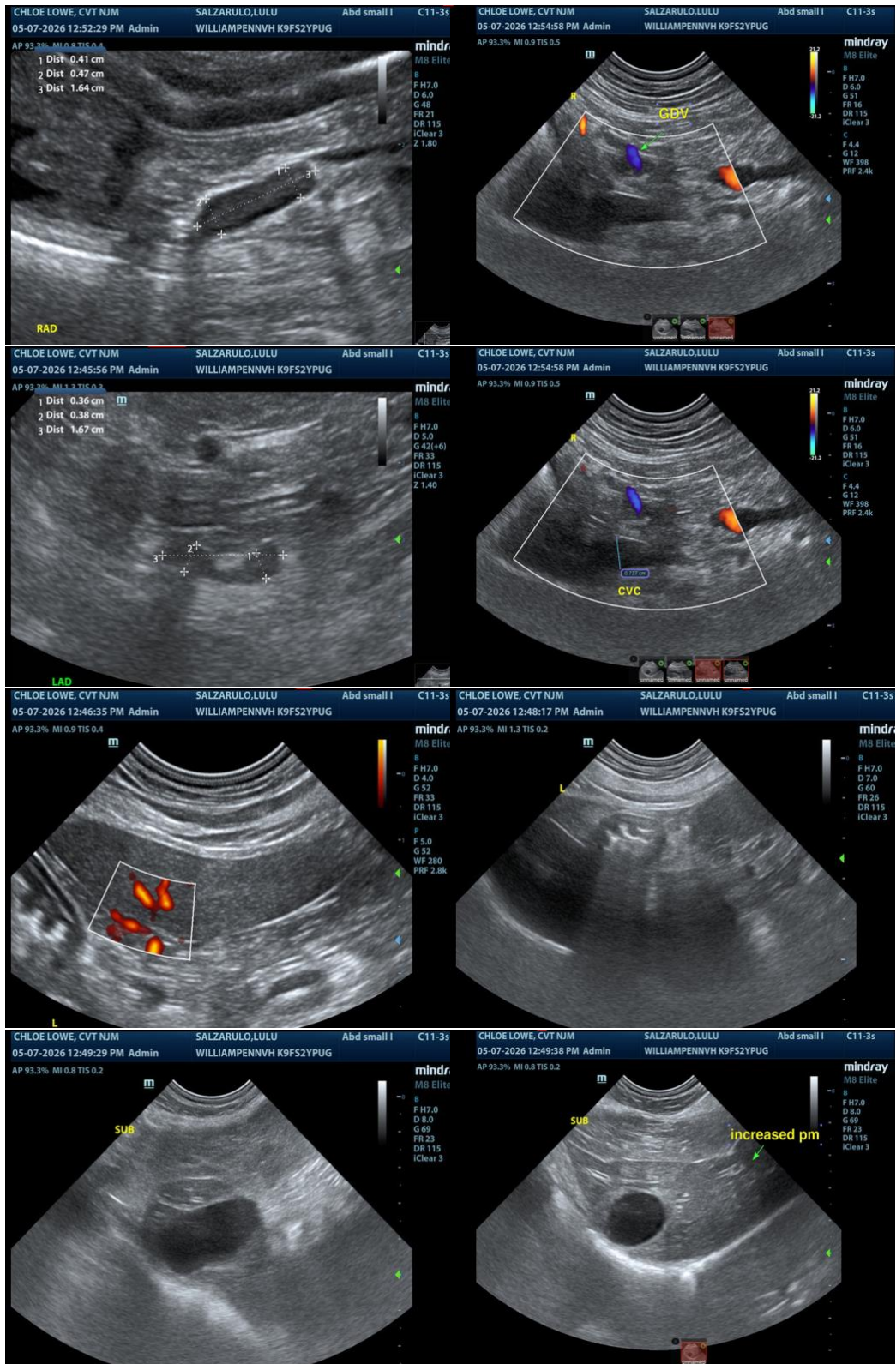
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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,

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