



PATIENT

Andy Keenan

SPECIES

Canine

BREED

Mini Schnauzer

SEX

Neutered Male

AGE

2 Years

WEIGHT

13 lbs

INTERPRETED BY

Kim Radway, DVM,
DABVP (Canine/
Feline)

IMAGING PERFORMED BY

Julia Bakker, DVM

HOSPITAL NAME

Orange Blossom
Veterinary Imaging

REFERRING VET

Arthur Newman, DVM

INVOICE

16305

DATE

06/03/26

PRESENTING CLINICAL SIGNS

Severe liver enzyme elevations. ALT 1864. ALP 843

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The **urinary bladder**, trigone and pelvic urethra presented with normal wall thicknesses with anechoic urine and normal tone. No uroliths or masses were noted in the lumen of the bladder. No evidence of inflammatory or neoplastic changes were noted. The ureters were not visible and considered normal.

The **kidneys** revealed normal size, corticomedullary definition and ratio with the cortex being 1/3 of medulla. Medullary echogenicity differed distinctly from that of the cortex and no evidence of dilation could be seen. The renal pelvic diverticuli were distinct in character. The capsules were acceptably uniform without dramatic irregularities. The left kidney measured 4.16 cm length. The right kidney measured 4.27 cm 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 acceptable. The left adrenal gland measured 1.53 cm x 0.63 cm x 0.47 cm. The right adrenal gland measured 1.58 cm x 0.43 cm x 0.58 cm.

Spleen

The **spleen** presented with a smooth homogeneous parenchyma hyperechoic to liver and kidney. The capsule was smooth and linear in its contour. The splenic vasculature demonstrated normal volume without signs of congestion, significant contraction, or thrombosis.

Liver

The **liver** revealed normal size, contour, and structure. Parenchymal echogenicity was smooth and homogenous in appearance. Vascular and biliary tracts were of normal volume and no evidence of congestion was noted. The gallbladder presented with anechoic contents and a thin hyperechoic wall. The cystic and common bile ducts were normal. No periportal lymphadenopathy was evident. The aorta to caudal vena cava ratio was normal with a 1:1 size.

Gastrointestinal

The **gastrointestinal tract** revealed a stomach and intestine free of stasis, of normal wall thickness, acceptable curvilinear mural detail, and peristaltic activity. There was a small amount of gas in the lumen of the stomach. No obstructive or overt infiltrative disease was noted. No abnormal lymphatic activity was noted, and the abdomen was free of gastrointestinal masses and pathological fluid.

Pancreas

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

ULTRASONOGRAPHIC FINDINGS



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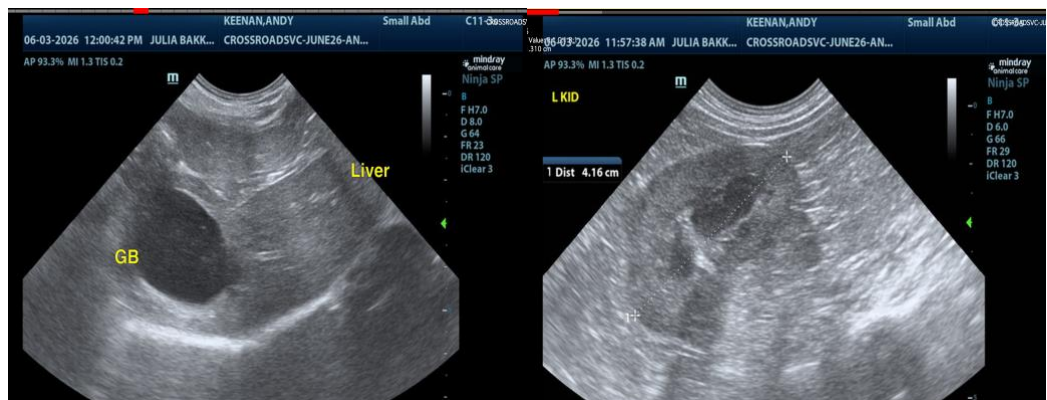
- This is a normal abdomen including a normal hepatic parenchyma, gallbladder and normal sized caudal vena cava.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

This patient had a normal-appearing liver and gallbladder despite the dramatically elevated liver values. Based upon this patient's age and breed, a portosystemic shunt is possible. However, there were no secondary changes to support that, including no bladder stones, renomegaly, or dilated caudal-vena-cava. Despite not having those changes present, based on this patient's age and breed, it is still recommended to consider submitting a pre- and post- bile acids and protein C test in order to better rule out the possibility of a portosystemic shunt or microvascular dysplasia, now known as portal vein hypoplasia. Other differentials would include acute hepatitis, secondary to toxin exposure, or an infectious disease such as leptospirosis.

Based upon the patient's clinical status and history, a leptospirosis titer can be submitted. It is recommended to begin supportive care with Denamarin and to closely follow the liver values with a recheck blood work panel in two weeks to determine if they are increasing or decreasing over time.

Based upon the patient's current clinical status, further diagnostics such as a liver biopsy can be considered if this patient is clinically unstable. If there are no secondary clinical signs such as anorexia, vomiting, or diarrhea, then a liver biopsy can be performed after obtaining the above-recommended diagnostics. If there is a concern for an underlying liver shunt, then referral for a CT angiogram may be required.





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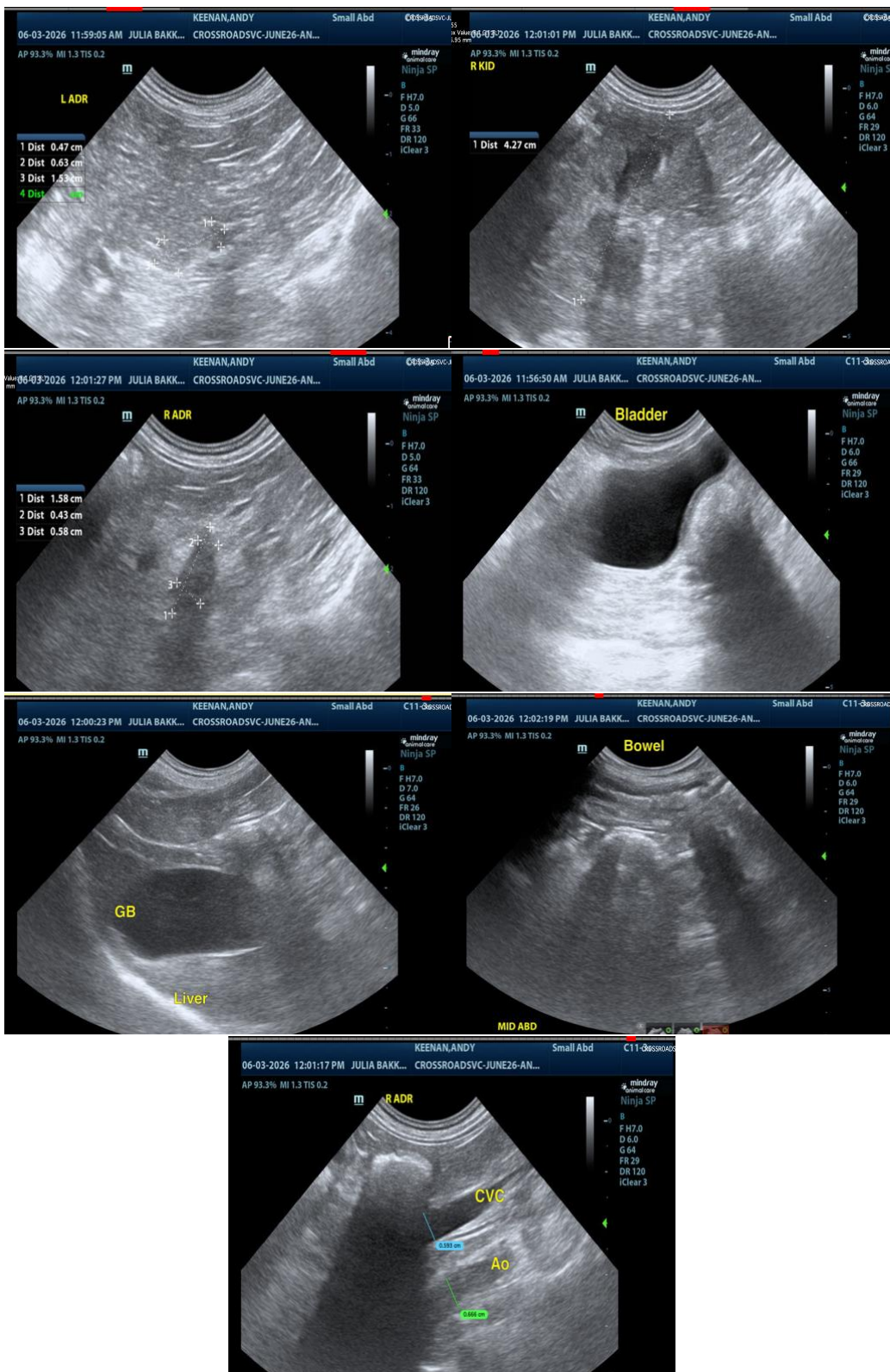
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Kim Radway, DVM, DABVP (Canine/ Feline)

info@SonoPath.com