

**DATE**

2/21/22

PRESENTING CLINICAL SIGNS

Pet's bile acids did come back high/abnormal. This indicates a problem with the liver. Whether it is transient like a toxin exposure that will improve on its own, or something more serious like a liver shunt or other hepatobiliary tract disease going on. Next recommended step is an AUS to image the liver, biliary tract and general abdomen for abnormalities.

Current Medications: None listed.

Lab Results: Not provided by clinic.

Date of Previous IntraPet Ultrasound: No previous.

Sedation: Declined.

Stat Report: Not requested.

Imaging Performed By: Rachel Brillhart, RDMS.

PATIENT

Olive Oyl Crosswhite

SPECIES

Canine

BREED

Chihuahua

SEX

Spayed Female

AGE

8/15/15

WEIGHT

1.57 kg

INTERPRETED BYEric Lindquist, DMV
DABVP, Cert. IVUSS**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 **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. Slight pinpoint renal mineralization was noted. The kidneys measured 3.0 cm each.

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 1.35 x 0.39 cm at the caudal pole and 0.41 cm at the cranial pole. The left adrenal gland measured 1.42 x 0.32 cm at the cranial pole and 0.35 cm at the caudal pole.

HOSPITAL NAME

Banfield City

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.

REFERRING VET**INVOICE**

96191

Liver

The **liver** revealed coarse architecture with increased portal markings. The portal vein to vena cava ratio was 1:1 and each measured 0.44 cm. The liver was normal in size with no evidence of intrahepatic or extrahepatic shunting. However, there was a moderate amount of parenchymal remodeling noted. 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.

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

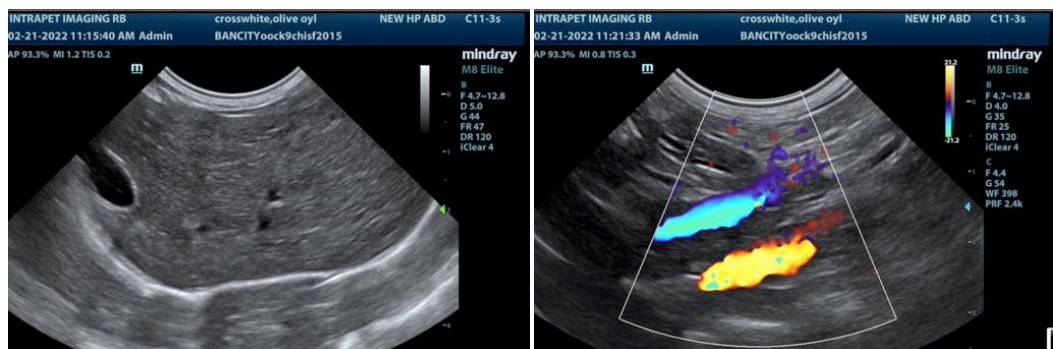
Hepatic remodeling, possible portal hypoplasia/microvascular dysplasia given the breed predisposition. Acute on chronic insult is possible given the patient's history.

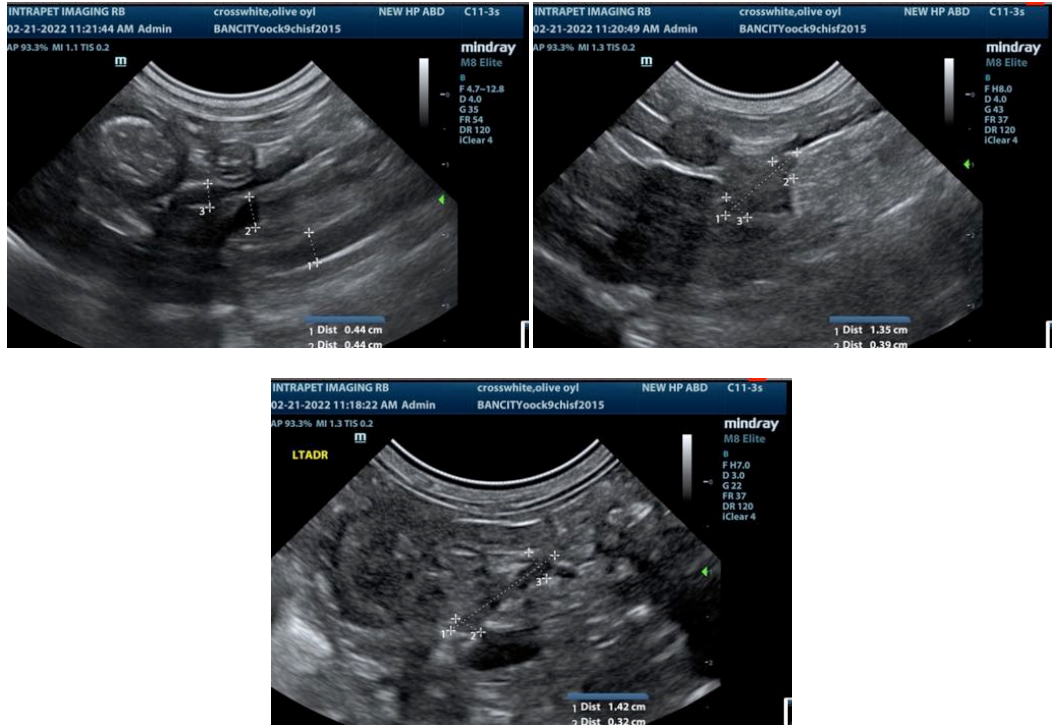
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

There is no evidence of intrahepatic or extrahepatic shunting.

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.**





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.

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