



PATIENT PRESENTING CLINICAL SIGNS

Zak Smith History: Pet has been having a history of elevated liver enzymes
Abnormal PE/Chem/CBC/UA Results: 05/04/2022 ALT 134, 06/03/2022 ALT 257, ALKP 171 and Bile acids pre and post, pre meal 12.2, post meal 68.1.

SPECIES

Canine

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

BREED

Tibetan Terrier

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.

SEX

Neutered male

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 4.17 cm. The right kidney measured 4.65 cm.

AGE

14 years

Adrenal Glands

WEIGHT

22.2 lbs

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 1.3 x 0.45 cm at the cranial pole and 0.46 cm at the caudal pole. The left adrenal gland measured 1.01 x 0.32 cm at the cranial pole and 0.3 cm at the caudal pole.

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUSS

Spleen

IMAGING PERFORMED BY

Marco Lichfield

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.

HOSPITAL NAME

Sova AH

Liver

REFERRING VET

Dr. Sova

The **liver** revealed coarse architecture with increased portal markings. This is consistent with remodeling and history of inflammatory hepatopathy. The liver was normal in size. The portal vein measured 0.5 cm at the bifurcation. The gallbladder and common bile duct were unremarkable.

INVOICE

30932

Gastrointestinal

DATE

6/8/22

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



PATIENT demonstrated normal luminal chyme and stool consistency respectively. No obstructive or overt infiltrative disease was noted. No associated abnormal lymphatic activity was noted.

Zak Smith

SPECIES *Pancreas*

Canine 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.

BREED

Tibetan Terrier

ULTRASONOGRAPHIC FINDINGS

SEX

Mild hepatic remodeling. Either spurious elevation of bile acids or micro vascular dysplasia/portal hyperplasia is possible, yet no evidence of intrahepatic or extrahepatic shunting. Global parameters for shunting such as bladder and renal calculi and microhepatica were not present.

Neutered male

AGE

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

14 years

FNA or core liver biopsy would be indicated. Leptospirosis titers are warranted to rule out subclinical disease. A clinical trial of the following may prove effective.

WEIGHT

Hepatic Support for Bile Acid Elevation +/- Hepatic Encephalopathy

22.2 lbs

INTERPRETED BY

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.

Eric Lindquist, DMV
DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Marco Lichfield

HOSPITAL NAME

Sova AH

REFERRING VET

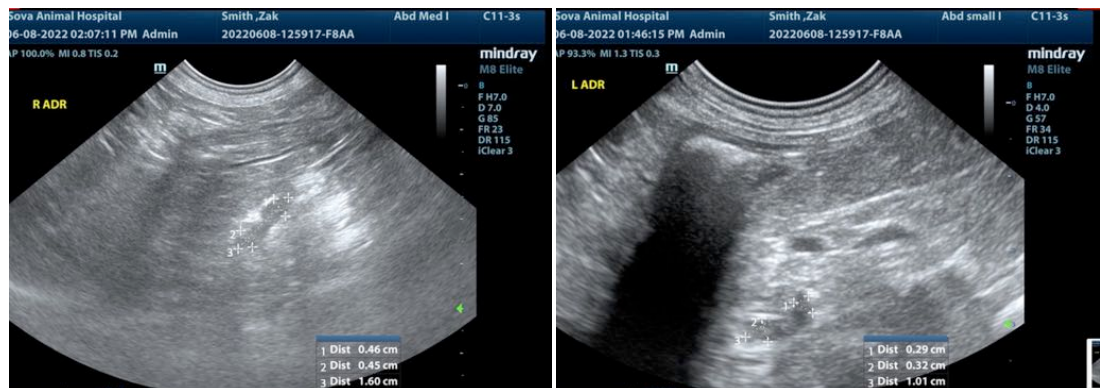
Dr. Sova

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DATE

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PATIENT

Zak Smith

SPECIES

Canine

BREED

Tibetan Terrier

SEX

Neutered male

AGE

14 years

WEIGHT

22.2 lbs

INTERPRETED BY

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IMAGING PERFORMED BY

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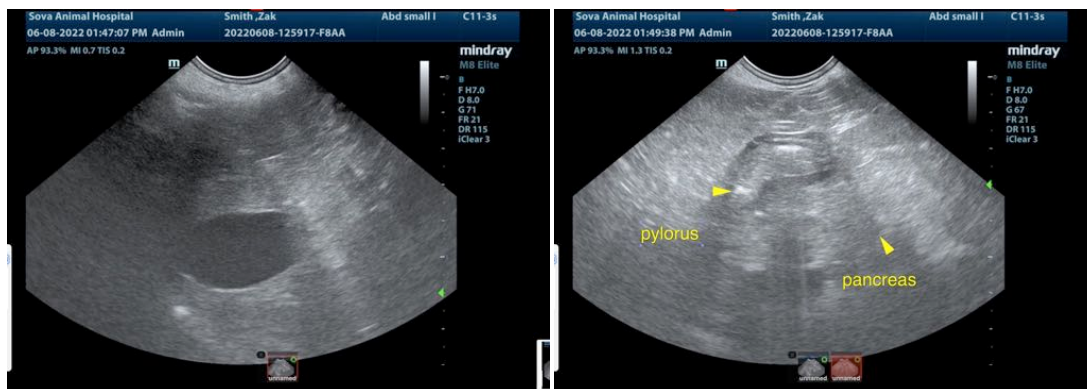
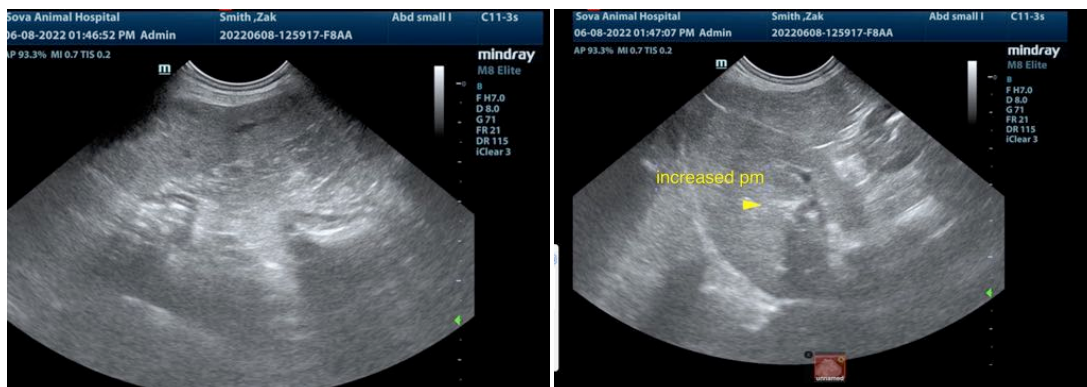
Dr. Sova

INVOICE

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DATE

6/8/22



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
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