



PATIENT

Steve Beall

SPECIES

Canine

BREED

Colorado Mountain
Dog

SEX

Neutered male

AGE

10 months

WEIGHT

71 lbs

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Dr. Anderson

HOSPITAL NAME

Elizabeth AH

REFERRING VET

Dr. Anderson

INVOICE

46533

DATE

8/9/23

PRESENTING CLINICAL SIGNS

History: Acute on set of teeth chattering, wobbly gait, lying down and not rising, drooling and loss of vision last night. Was just tapered off prednisone and finished clindamycin for a dermal eruption of the muzzle.

Abnormal PE/Chem/CBC/UA Results: PE: Obtunded, moderate ptialism, weak and wobbly when stood up on all four feet. Normal heart rate, gum color, auscultation of lungs and remainder of exam. CBC: MCV 53.1 fL, MCHC 41.7 g/dL, RDW 23.9%, Retic 133.3 K/uL, Lymph 1.02 K/uL, Mono 1.4 K/uL, MPV 8.2 fL Chem: ALT 702 U/L, ALP 891 U/L, GGT 24 U/L, Amylase 328 U/L UA: Bili 1 mg/dL, Urobilinogen 8 mg/dL, 21-50 Ammonium Biurate Crystals, 21-50 Unclassified Crystals Bile Acids: 128.4 umol/L

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. A moderate amount of suspended debris and a mild amount of sand was noted. No evidence of inflammatory or neoplastic changes was noted. Ureteral papillae were normal.

The **kidneys** were swollen and mildly hyper vascular on Power Doppler assessment. The left kidney measured 7.66 cm. The right kidney measured 8.07 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 right adrenal gland measured 1.84 x 0.45 cm at the caudal pole 0.58 cm at the cranial pole. The left adrenal gland measured 2.5 x 0.47 cm at the caudal pole and 0.41 cm at the cranial 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 was noted.

Liver

The **liver** was moderately subnormal in size. The gastric content obscured visibility of the portal hilus. The gallbladder was mildly over distended.



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Gastrointestinal

A minor amount of non-shadowing, non-obstructive ingesta was noted in the stomach. Transit of chyme into the small intestine was normal. Curvilinear patterns were maintained throughout the GI tract. No evidence of pathology. 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.

Heart

Rapid view of the heart revealed no evidence of pathology.

ULTRASONOGRAPHIC FINDINGS

Swollen kidneys and hyper vascular.

Portal hilus not visible due to gastric content.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

I recommend re-imaging this patient at n.p.o. status, particularly SDEP 11-14 position with attention paid to the portal vein branches to assess for intrahepatic shunting. There is an abnormal contour to a vessel that appears to be in the left medial aspect of the liver. However, this merits further investigation. Given the bladder sand and swollen kidneys along with microhepatica I am strongly concerned for macroscopic shunting. The other option is CT with contrast in this patient. Given the bile acid elevation, ALT elevation would suggest an inflammatory component.

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.



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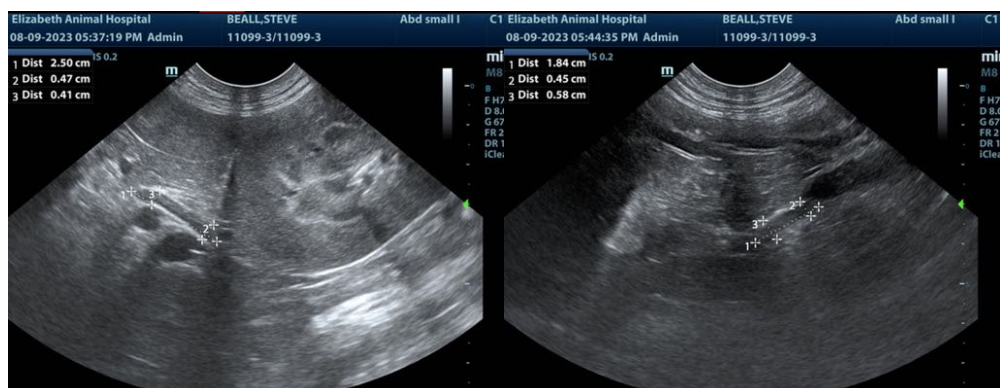
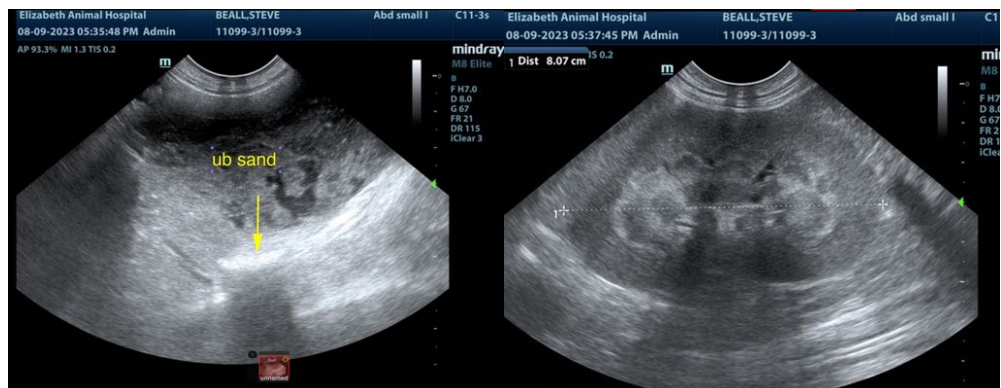
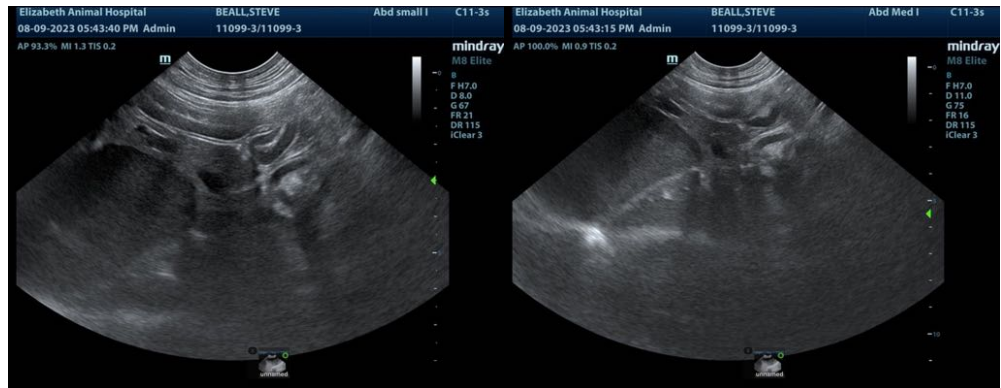
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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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info@SonoPath.com

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