



PATIENT PRESENTING CLINICAL SIGNS

Latte Britton
History: Pre-op blood work before patient's dental cleaning found a moderate to very elevated ALT (486). We ran Bile acid's and the post-prandial was 47.4. Patient has heavy calculus, but no other symptoms. Current Medications Clavamox and VRS Hepato

SPECIES

Canine Abnormal PE/Chem/CBC/UA Results: ALT 486 Post-prandial bile acids 47.4 BUN 32

BREED

Shih Tzu

SEX

Spayed female

AGE

11 years

WEIGHT

7.6 kg

INTERPRETED BY

R. McKenzie Daniel,
DVM, DABVP
(Canine and Feline)

IMAGING PERFORMED BY

Jenna Walsh CVT

HOSPITAL NAME

Silver Creek Animal
Clinic

REFERRING VET

Dr. Tangeman

INVOICE

10218ag

DATE

03/22/2022

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 2 cm exhibited normal thickness and tone. Anechoic urine was present in the lumen with no uroliths or sediment. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes were noted.

Normal size and margination were present in the kidneys. Both kidneys exhibited uniform cortex hypertrophy with moderate loss of corticomedullary border demarcation. Mildly reduced medullary volume with increased medullary echogenicity including pinpoint dystrophic medullary mineral was noted in both kidneys. The left kidney measured 4.0 cm in length. The right kidney measured 4.0 cm in length.

The area of the aortic trifurcation was free of pathology.

Adrenal Glands

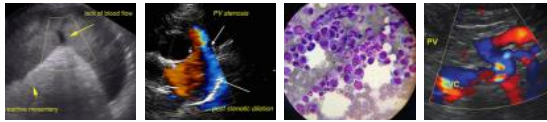
The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 0.55 cm width at the caudal pole and 0.34 cm width at the cranial pole. A well-defined, mildly expansive nodule was present in the cranial right adrenal gland with mild associated symmetrical capsule expansion. The nodule did not exhibit signs of parenchymal escape or vascular invasion. The nodule measured approximately 1.0 x 0.7 cm. The overall right adrenal gland measured 0.45 cm width at the caudal pole and 0.8 cm width at the cranial pole.

Spleen

The spleen exhibited a finely textured and homogenous parenchyma which was hyperechoic to the liver and renal cortical parenchyma. The capsule was smooth and regular without apparent expansion. The splenic vasculature at the hilus was normal in volume with no evidence of congestion or thrombosis. Acute to chronic inflammatory, neoplastic, or benign parenchyma changes were not noted.

Liver

The liver presented enlarged in size. The parenchyma of the liver was subjectively normal in echogenicity compared to the spleen and renal cortices. The liver parenchyma was uniform with a mildly coarse echotexture. The capsule of the liver was symmetrically rounded to mildly swollen in margination. The hepatic and portal vasculature were normal in appearance without signs of congestion. The gallbladder was non-distended in size with moderate nondependent mildly organized to congealed yet



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nonmineralized luminal debris occupying approximately half of the central gallbladder lumen. No evidence of peripheral gallbladder inflammation. The cystic and common bile ducts were normal.

Gastrointestinal

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The stomach presented intact wall layering with a normal wall layer ratio. The lumen of the stomach was empty with no signs of ileus, obstruction or foreign material.

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The small intestine presented intact wall layering with 1:3 muscularis/mucosa ratio. The lumen of the small intestine was empty with no signs of ileus, obstruction or foreign material.

Normal visible colon wall layers were present with apparent formed feces in lumen.

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Pancreas

The pancreas was normal in size and contour with heterogeneous to subtly hypoechoic parenchyma compared to adjacent omentum. No signs of active inflammation or neoplasia.

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Free Abdomen

No overt lymphadenopathy or peritoneal effusion was present.

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ULTRASONOGRAPHIC FINDINGS

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- Hepatopathy-subjectively benign, suspect inflammatory hepatic parenchymal or hepatobiliary disease i.e. cholangiohepatitis without overt evidence of neoplastic criteria.
- Moderate nondependent congealed to mildly organized gallbladder debris without evidence of gallbladder or peripheral inflammation-consistent with early not inflamed gallbladder mucocele.
- Nonspecific right adrenal nodule-suspect adenoma.
- Mild pancreatic parenchymal remodeling-age related change, potential for low grade to chronic pancreatitis.
- Nonspecific chronic renal changes.

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

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Assuming normal clotting status an ultrasound guided FNA of the liver using a 25g needle could be considered for screening cytology primarily to assess for or identify inflammatory cell type. No evidence of a portosystemic shunt given relatively low-grade post prandial bile acid elevation as well as normal hepatic vascular volume. Empirically hepatosupportive medications including Denamarin and Ursodiol may prove beneficial. Possible chronic portal hypoplasia/microvascular dysplasia cannot be definitively excluded.

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Further renal staging to include urine C/S and protein: creatinine ratio on sterile urine sample may be considered.

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Screening BP recommended to assess for evidence of hypertension. Technically the possibility of an emerging right adrenal neoplastic nodule i.e. pheochromocytoma or adenocarcinoma is possible. Sonographic monitoring of this nodule as well as the gallbladder for evidence of progressive changes is recommended.

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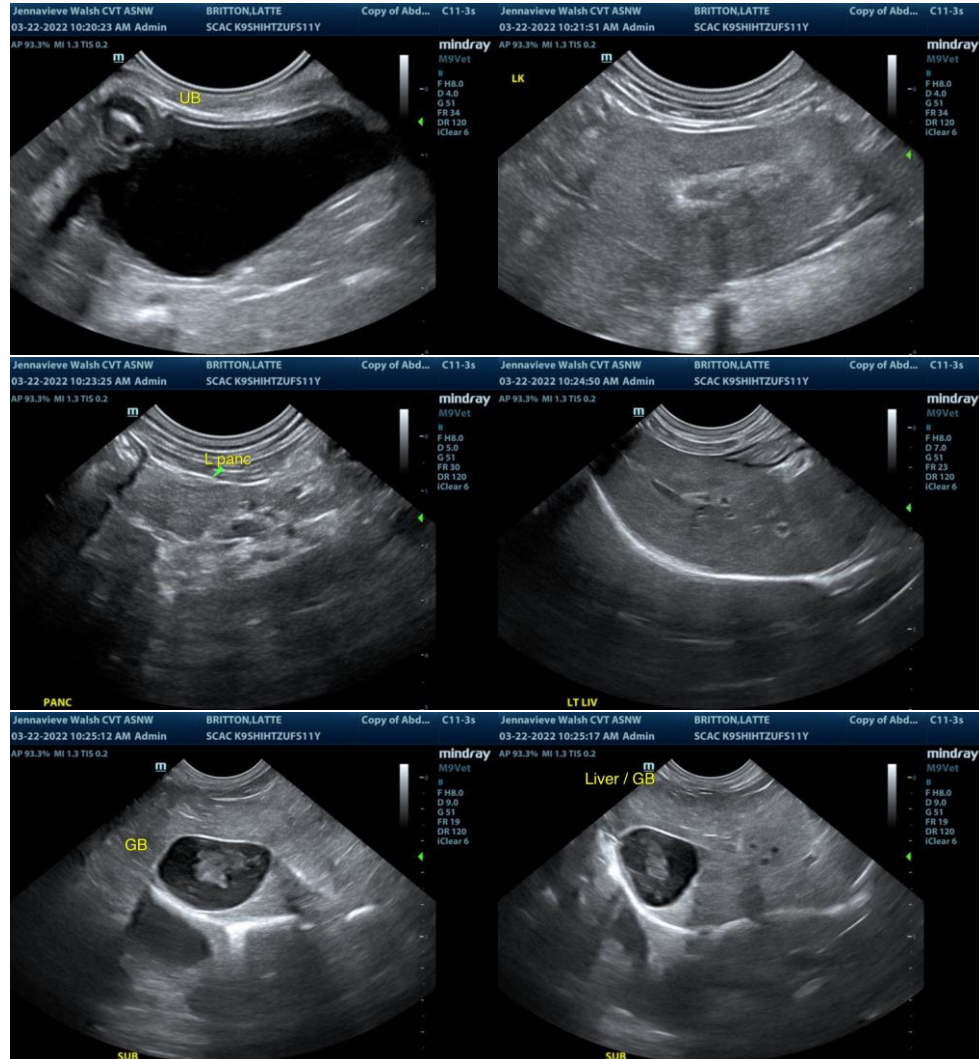
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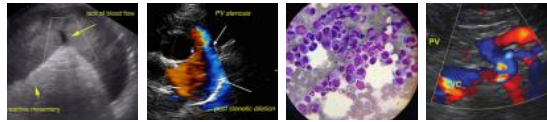
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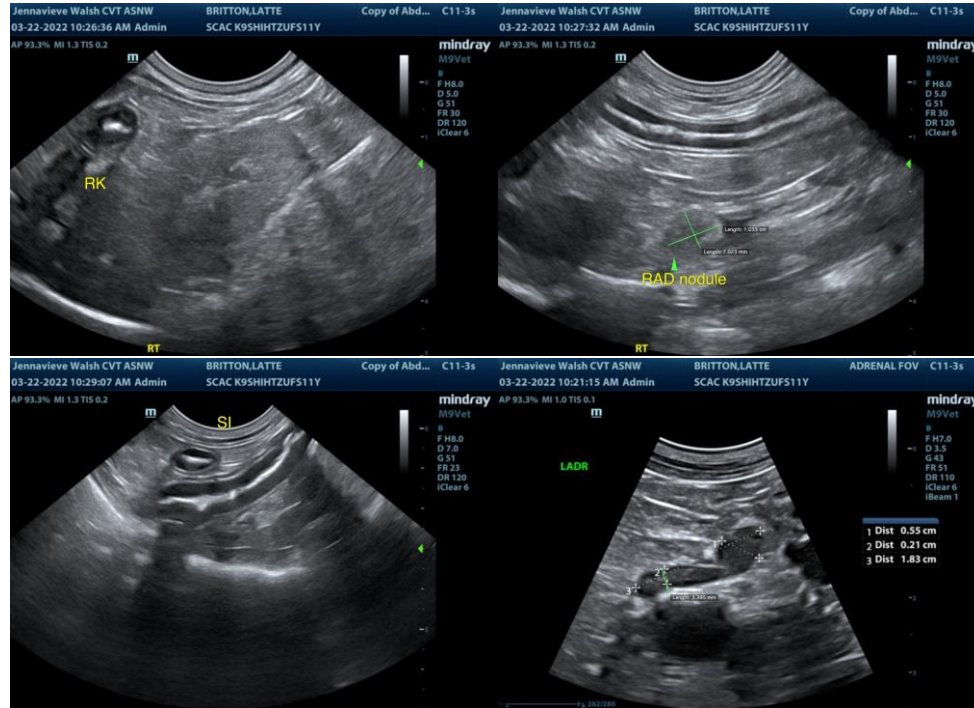
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

R. McKenzie Daniel, DVM, DABVP (Canine / Feline Practice)

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