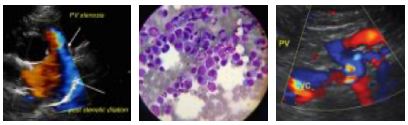
IMAGING PERFORMED BY

IntraPet.com



SonoPath
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DATE

7/20/22

PATIENT

Bentley Liupaeter

SPECIES

Canine

BREED

Canine Shih Tzu

SEX

Male, neutered

AGE

11/25/2006

WEIGHT

14.6 lbs.

INTERPRETED BY

Andrea Nicastro, DVM, Diplomate ACVIM (*Small Animal Internal Medicine*)

HOSPITAL NAME

Northwind AH

REFERRING VET

Dr. Russ

INVOICE

13758

PRESENTING CLINICAL SIGNS

Ultrasound recommended by CVCA.

Current Medications: Furosemide.
Lab Results: BUN 60, creatinine 2.0, ALP 1051, 4DX negative
Date of Previous IntraPet Ultrasound: No previous.
Sedation: Not required to complete full diagnostic ultrasound.
Stat Report: Not requested.

Imaging Performed By: Andi Parkinson, BS, RDMS.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder wall is normal in thickness and the mucosal surface is smooth. A scant amount of gravity-dependent mineralized sand is observed within the lumen. No distinct cystic calculi are seen. No masses, inflammatory changes or calculi are observed. Ureteral papillae and visualized portion of the proximal urethra, visible to a depth of 2 cm, are normal.

The prostate is normal in size (0.65 cm in width) and shape. Parenchyma is homogenous. The prostatic urethra appears normal without evidence of dilation or obstruction.

The left kidney is normal size (3.95 cm in length); normal shape and architecture with smooth peripheral margins. The cortex is thickened and mildly hyperechoic with pinpoint hyperechoic to mineralized foci. Several small cortical cysts are seen. There is poor corticomedullary distinction. Several non-obstructive nephroliths are present. Moderate pyelectasia is visualized (0.53 cm in the transverse plane). There is no evidence of infarcts or hydroureter. Renal vasculature is normal.

The right kidney is normal size (3.66 cm in length); normal shape and architecture with smooth peripheral margins. The cortex is thickened and mildly hyperechoic with pinpoint hyperechoic to mineralized foci. A few small cortical cysts are seen. There is poor corticomedullary distinction. Several non-obstructive nephroliths are present. Mild pyelectasia is visualized (0.24 cm in the transverse plane). There is no evidence of infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is mildly enlarged (0.75 cm at cranial pole) (0.81 cm at caudal pole) (2.17 cm in length); normal shape; homogenous parenchyma. The glandular echogenicity and detail are unremarkable. Capsule, cortex, and medullary definition are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

The right adrenal gland is enlarged (1.99 x 0.99 cm) with an irregular shape and a mass effect at the caudal pole. The parenchyma is heterogeneous with foci of mineralization at the caudal aspect. There is no obvious evidence of vascular invasion.

Spleen

The spleen is normal in size (0.95 cm in width at the level of the hilus) with a normal capsular contour. There is appropriate echogenicity and echotexture. Several, ill-defined hyperechoic nodules/areas are observed along the medial aspect. Splenic vasculature is normal.

Liver

The liver is subjectively enlarged with swollen peripheral contours. The parenchyma is hyperechoic relative to the spleen and diffusely mottled in appearance with numerous varying sized ill-defined hypoechoic nodules/areas throughout the organ. Vascular and biliary tracts are of normal volume with no evidence of congestion. The portal vein: caudal vena cava ratio is approximately 1:1. The gall bladder lumen is

distended. The wall is normal in thickness. A large amount of aggregated, echogenic, partially dependent to suspended sludge in a partially stellate pattern is observed within the lumen. The cystic and common bile ducts are normal/not seen.

Gastrointestinal

The stomach and intestine are free of stasis and exhibit normal peristaltic activity. The gastric lumen is not distended. The gastric wall and pylorus are normal in thickness with a normal layering pattern. The pyloric outflow tract is patent. The small intestinal lumen is not dilated. The small intestinal wall thickness is normal with a normal layering pattern and appropriate mural detail. Discreet masses are not identified. The colonic wall is normal. No obstructive disease is noted.

Pancreas

The right limb is prominent in size with minimal deviation from the normal peripheral contours. The parenchyma is subtly hypoechoic relative to surrounding omental fat and diffusely heterogeneous in appearance. No distinct focal lesions are observed. The pancreatic duct is not overtly dilated.

Free Abdomen

There is no evidence of free fluid. The abdominal lymph nodes are normal/not visible.

ULTRASONOGRAPHIC FINDINGS

Primary Findings:

- Right adrenal nodule/mass effect. Differentials include neoplasia (i.e., adenoma, adenocarcinoma, pheochromocytoma) vs benign nodular hyperplasia. The left adrenomegaly is likely secondary to mild hyperplastic change.
- The hepatic parenchymal changes are non-specific and may be secondary to regenerative nodular hyperplasia, vacuolar hepatopathy or some combination thereof. Infiltrative neoplasia (i.e., lymphoma) is also possible. Inflammatory disease is considered less likely given the normal ALT.
- The gallbladder changes are consistent with a developing mucocele.
- The bilateral renal changes are most consistent with chronic interstitial nephrosis/nephritis with non-obstructive nephrolithiasis and pyelectasia.

Secondary Findings:

- The hyperechoic splenic nodules are most consistent with myelolipomas with a low possibility of emerging neoplasia.
- Age-related pancreatic remodeling. Mild chronic pancreatitis is also possible. Correlation with the patient's clinical history is recommended.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

- Regarding the renal disease, consider the following:

    1. Urinalysis and culture and sensitivity
    2. UPC (if proteinuria is present)

3. Baseline blood pressure measurement

4. Transition to a prescription renal diet, if the patient will tolerate it.

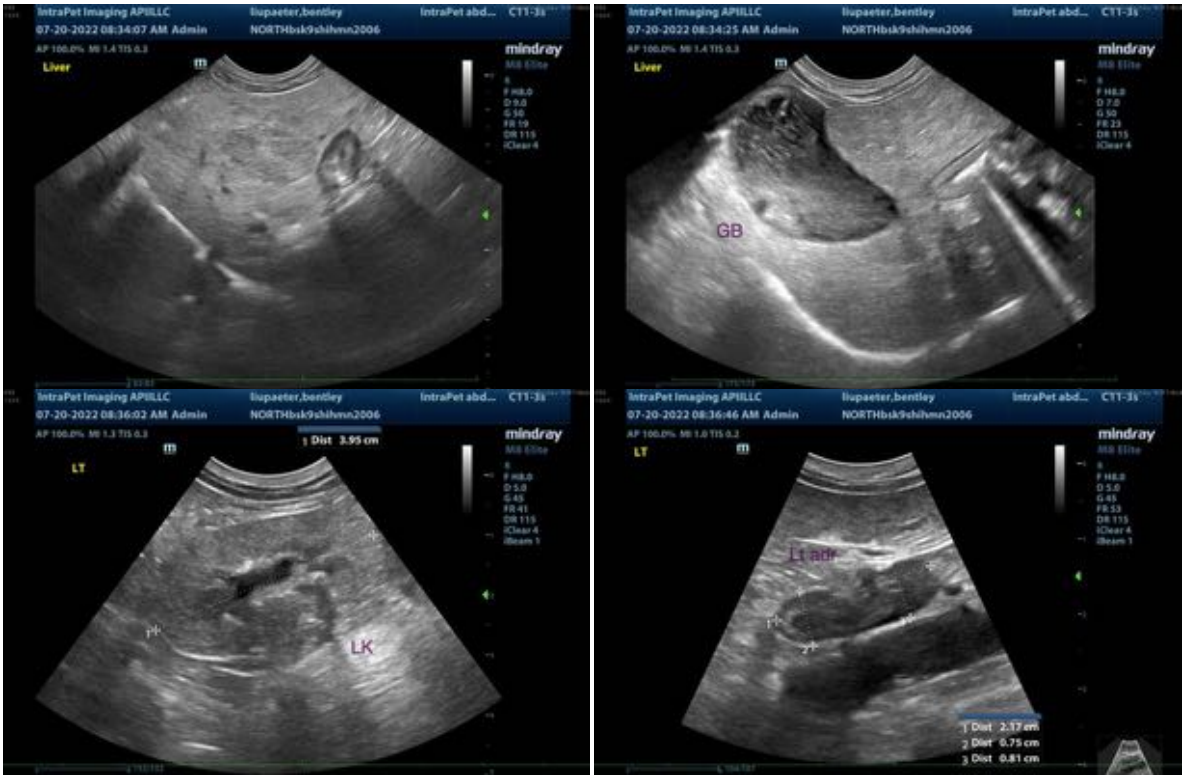
- Given the gallbladder changes, consider initiation of Ursodiol therapy with serial sonographic monitoring (i.e., every 6-8 weeks) to assess for progression to a fully formed mucocele.

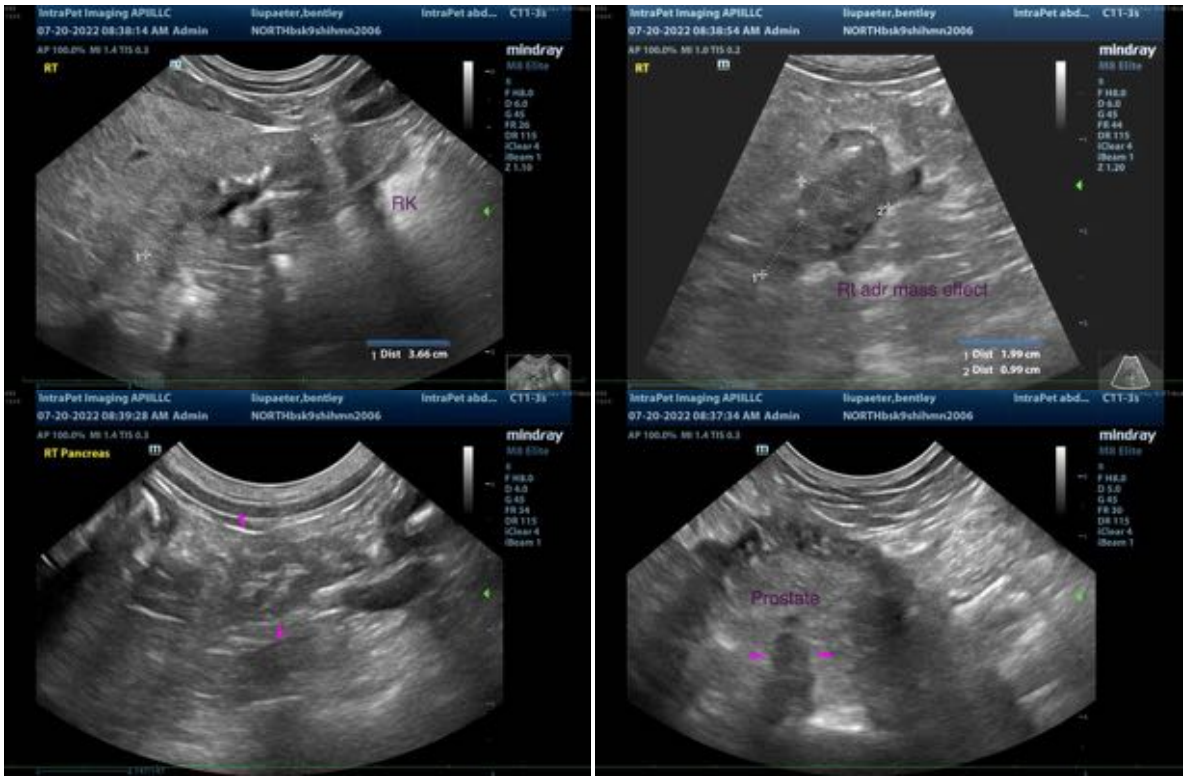
- Regarding the right adrenal nodule/mass effect, consider the following:

1. Low dose Dexamethasone suppression test and urine/blood catecholamine levels to assess for a functional tumor.

2. Three-view thoracic radiographs to evaluate for pulmonary metastatic disease.

- Regarding the hepatic parenchymal changes, a fine needle aspirate can be considered (if clotting status is appropriate) to further evaluate for infiltrative neoplasia (i.e., round cell tumor). It should be noted that hepatic cytology may not be helpful in identifying inflammatory, fibrotic or cholestatic liver diseases but can be useful in identifying round cell neoplasia.





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.

Andrea Nicastro, DVM, Diplomate ACVIM (*Small Animal Internal Medicine*)
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