

**DATE PRESENTING CLINICAL SIGNS**

7.7.2023 Spanky presented on 6/29/23 for a progressively worsening cough over the past 2 weeks, wheezing and lethargy. On PE a 4/6 heart murmur was heard, there was labored breathing, muffled heart sounds and coughing. There was also abdominal distension, bilateral cataract and multiple small skin growths on exam. 13 pounds gained since July 2021.

PATIENT

Spanky Dixon

Current Medications: Started on 6/29/23: Vetmedin 5mg PO BID, Lasix 20 mg PO TID, Hydrocodone/homatropine 5mg/1.5 mg PO TID

SPECIES

Canine

Lab Results: CBC: PLT 444 K/uL. CHEM: ALP 672 IU/L, Amylase 1328 IU/L, precisi3n PSL 169 U/L T4: 0.9 ug/dL

BREED

Cocker Spaniel

Radiographs: Cardiomegaly and pulmonary edema on thoracic radiography. Hepatomegaly on abdominal radiography.

Date of Previous IntraPet Ultrasound: No previous.

Sedation: Not required to complete full diagnostic ultrasound.

Stat Report: Not requested.

Imaging Performed By: Stephanie Warga RDCS, RVT.

SEX

Neutered Male

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**Urinary System****AGE**

3/9/2010

The urinary bladder is moderately distended with anechoic urine. The bladder wall, trigone, ureteral papillae and visible urethra (to a depth of 2cm) appear normal with no evidence of wall thickening, mucosal irregularities, masses or cystic calculi.

WEIGHT

45 lbs

The prostate is borderline large (1.52 cm) and shape for this neutered male dog. The parenchyma is homogenous and the external margins are smooth. The prostatic urethra appears normal with no evidence of irregularity, invasion, mass effect or calculi.

INTERPRETED BY

Kathleen Sennello
DVM, MS, Diplomate
ACVIM (Small Animal
Internal Medicine)

The left kidney has a normal shape and size (5.58 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

HOSPITAL NAME

Bel Air VH

The right kidney has a normal shape and size (5.60 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

REFERRING VET

Dr. Schmidt

Adrenal Glands

The left adrenal gland is normal in size (0.56 cm at the caudal pole). It is observed in its normal position cranial to the left renal artery. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

INVOICE

13614

The right adrenal gland is normal in size (0.54 cm at the caudal pole). It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

Spleen

The spleen is subjectively normal in size, echotexture is homogenous, and the splenic capsule is smooth with no irregularities. The blood flow through the hilus and splenic parenchyma appears normal. No focal parenchymal abnormalities are visualized.

Liver

The liver is subjectively large in size, and echogenicity with smooth peripheral margins. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary tract appear normal. No focal nodules or cystic lesions are observed.

The gall bladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. There is a mild amount of non-organized echogenic debris. The cystic and common bile ducts are normal/not visible.

Gastrointestinal

The stomach contains minimal luminal contents. It measures at a normal thickness of <0.7cm with some variability due to the presence of rugal folds. The distinction of the gastric wall layers is adequate and there is no impression of reduced peristaltic activity. No masses or focal lesions were observed.

The visualized areas of duodenum, jejunum and ileum have a relatively uniform diameter with minimal fluid distension. Wall thickness is normal. Bowel loops follow a curvilinear path with distinct wall layering maintaining the typical 1:3 muscularis:mucosa layer ratio. The duodenum measured as normal (0.60 cm) and the jejunum measured as normal (0.37 cm) Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

The ileocecal junction was visualized and exhibited normal intact wall layering and is subjectively of normal thickness. Sections of colon are visualized with formed fecal material and gas shadowing distally. There is no observed focal or generalized colon wall thickening or loss of layering.

Pancreas

The pancreas is normal and isoechoic to surrounding mesentery. There is no evidence of nodules or cystic lesions. There is no evidence of regional mesenteric inflammation or fluid.

Free Abdomen

Evaluation of the peritoneal cavity did not reveal any evidence of effusion, or subjective lymphadenomegaly. The Medial iliac nodes appear normal and there was no evidence of a caudal aortic thrombus at the bifurcation. The omentum is of normal uniform echogenicity.

ULTRASONOGRAPHIC FINDINGS

Primary Findings

- Borderline large prostate – Correlate with the age of neutering. If the patient was neutered after puberty, this is likely normal. If the patient was neutered prior to puberty, recommend a fine-needle aspirate to further investigate the enlarged prostate.
- Large heterogenous liver – The diffuse hepatic changes are non-specific and could be consistent with vacuolar hepatopathy, nodular hyperplasia, inflammatory/immune-mediated disease, fibrosis, extramedullary hematopoiesis, toxic hepatopathy (e.g., copper), infiltrative neoplasia (less likely) or other hepatopathy.
- Mild gall bladder debris - The significance of the aggregated gallbladder debris is unclear. This could represent an early mucocele, cholestasis, or may be secondary to fasting but seems unlikely to be causing a current issue. Recommend continued monitoring.

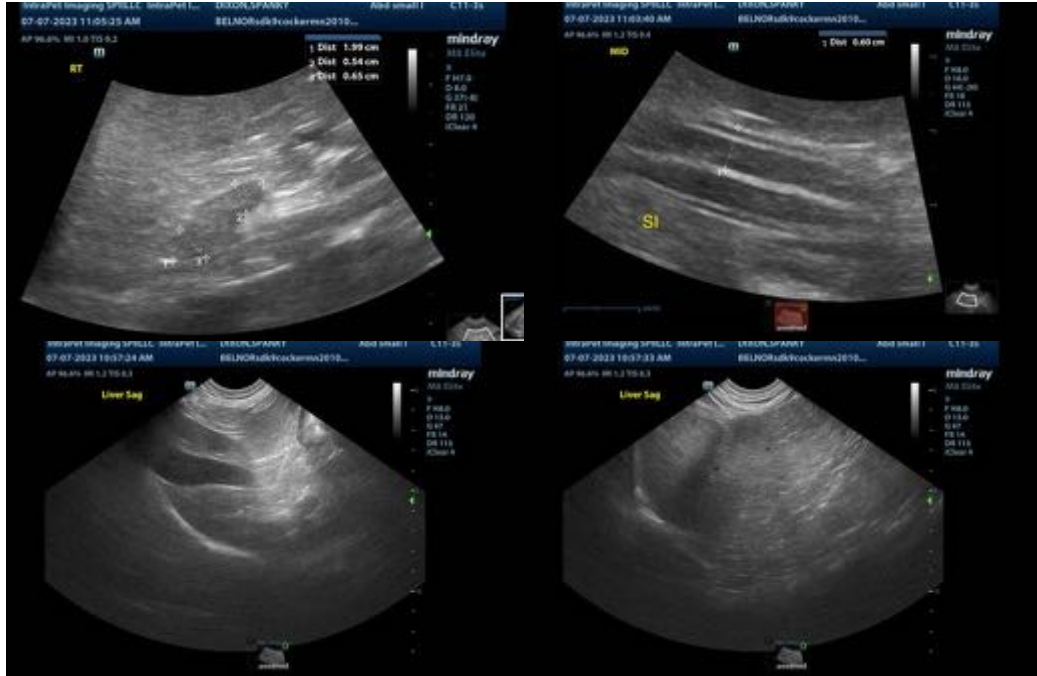
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

No focal lesions are visualized associated with the liver. The gallbladder and bile duct appear relatively normal. These findings are most consistent with a primary hepatopathy. Additionally, congestion secondary to heart failure could be contributing. These are my general recommendations for further evaluation of an elevation in ALP:

- Consider close evaluation of history for possible toxic changes examine medications, diet, dietary indiscretion etc.
- Consider PCR on urine/serum for leptospirosis (if not on antibiotics)/serology if recent antibiotic history.
- If not already done, consider pre and post prandial bile acids to evaluate liver function.
- If the ALP is significantly elevated relative to the ALT and symptoms consistent with Cushing's are present, consider adrenal function testing (ACTH stim)
- Consider Fine needle aspirate if round cell neoplasia is on your differential list (25 g needle, normal coags)
- If no response to supportive care (Denamarin, fluids, antibiotics, +/- Ursodiol etc.) Consider liver biopsy with samples obtained for histopathology, culture, and copper levels.

The prostate is prominent for a dog neutered prior to puberty. Correlate the time of puberty with the prostatic size.





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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