

**PATIENT**

Bailey Harris

SPECIES

Canine

BREED

Chihuahua X

SEX

Spayed Female

AGE

11 Years

WEIGHT

22 Pounds

INTERPRETED BYBeth Johnson, DVM
DACVIM**IMAGING PERFORMED BY**

Amy Mayhew, LVT

HOSPITAL NAME

SVS Imaging MI

REFERRING VETWixom Family
Pet Practice**INVOICE**

42485

DATE

11/2/22

PRESENTING CLINICAL SIGNS

Current Medications: None Patient History: Chronic diarrhea on and off for 2-3 months. Mobility in rear legs is decreased, legs give out at times per owner. Chronic halitosis and dental disease. Overall activity level is decreased.

Abnormal PE/Chem/CBC/UA Results: Abnormal Examination Findings: left eye, lower eyelid has mole like dermal mass; thick tartar over 208, sensitive on palpation, poss mobile, overall diffuse tartar/gingivitis, missing some premolars; large soft sq mass mid abdomen, smaller soft sq mass ventral thorax; thickened stifles bilateral with crepitus and decrease ROM, tense over LS spine Blood/urine: ALT 140 (12-118 IU/L) ALP 1575 (5-131 IU/L) Ca 11.8 (8.9-11.4 mg/dL) Proteinuria 3+

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**Urinary System**

Urinary bladder is adequately distended. It has a normal uniform wall thickness. Contents include primarily anechoic fluid with occasional echogenic non-shadowing debris, most consistent with exfoliated cells, mucous and/or small blood clots. Both sterile inflammation as well as urinary tract infection can also present with echogenic debris. No masses or cystoliths are observed. The trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.

The right kidney is normal in size (6.26 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. A 1.0 cm cortical cyst is present in the cranial pole. There is no evidence of pyelectasia, mineral or infarcts observed.

The left kidney is normal in size (5.67 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed.

Adrenal Glands

Adrenal glands are plump/swollen in size. Normal shape and contour are maintained without evidence of capsular invasion. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal. A hyperechoic nodule is noted in the cranial pole of the left adrenal gland. Nodule does not disrupt normal shape and/or architecture. The left adrenal gland measures 1.59 cm at the cranial pole and 1.48 cm at the caudal pole. A hyperechoic nodule is noted in the cranial pole of the right adrenal gland. Nodule does not disrupt normal shape and/or architecture. The right adrenal gland measures 1.36 cm at the cranial pole and 1.31 cm at the caudal pole.

Spleen

The spleen is subjectively normal in size with a normal smooth capsular contour. Parenchyma is appropriately finely textured and homogenous with normal echogenicity relative to surrounding tissue (hyperechoic to liver). An approximately 1.0 cm anechoic, non-capsule disrupting nodule is present. Splenic vasculature appears normal.

Liver

Liver is subjectively enlarged (swollen contour) without disruption of architecture. It has a normal homogenous echotexture. Parenchyma is diffusely hyperechoic characterized by less prominent than normal portal vein walls and increased echogenicity relative to the spleen and falciform fat. No focal lesions are observed. Visible vasculature and biliary tree appear normal without distension or congestion.

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Gallbladder is moderately distended with anechoic bile as well as suspended and gravity dependent echogenic debris. The wall is smooth without visible thickening. There is no evidence of cystic or CBD dilation. There is no evidence of effusion or inflammation.

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Gastrointestinal

The stomach wall is normal in thickness (canine < 0.5 cm and feline < 0.4 cm) and layering. The lumen of the stomach is empty with no evidence of obstruction, foreign material or infiltrative disease. Pyloric outflow tract appears patent.

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Chihuahua X

The visible small intestines are normal in wall thickness and layering (canine duodenum < 0.5 cm and feline duodenum < 0.4 cm; other < 0.3 cm). Small intestinal motility appears adequate (1-3 contractions per min). The lumen of the small intestine is empty with no evidence of obstruction, foreign material or infiltrative disease.

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The visible colon is normal in wall thickness (< 0.2 cm) and layering. Loose stool is present in the colon.

Pancreas**AGE**

11 Years

The area of the pancreas contains irregular hyperechoic pancreatic remodeling.

Free Abdomen

There is no evidence of free peritoneal effusion noted in these images.

WEIGHT

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There is no apparent lymphadenopathy noted in these images.

PRIMARY FINDINGS**INTERPRETED BY**Beth Johnson, DVM
DACVIM

- **Bilateral adrenomegaly** – consistent with adrenal hyperplasia secondary to pituitary dependent hyperadrenocorticism vs stress or normal variant. Interpret in combination with clinical signs of hyperadrenocorticism.
- **Hyperechoic adrenal nodules bilaterally** – Differentials include primary adrenal cortical adenoma or adenocarcinoma, pheochromocytoma, myelolipoma, adrenal hyperplasia secondary to pituitary disease or metastatic disease. Ultrasound alone cannot differentiate between functional and non-functional nodules and/or between benign and malignant disease. Small nodules without other evidence of abdominal disease (to suggest metastatic disease) and/or clinical signs (to suggest adrenal disease) are most often incidental and should be monitored.
- **Hyperechoic hepatomegaly** - This appearance is non-specific and most consistent with a benign steroid (endocrine) or vacuolar hepatopathy or reactive or idiopathic hepatopathy. Inflammatory and/or infiltrative disease (such as round cell neoplasia) are also possible, but considered less likely.
- **Gallbladder debris** - Cholecystic debris is of unknown clinical significance. It can be seen with biliary stasis from fasting or illness. Cholecystic debris is not necessarily related to hepatobiliary disease. Echogenic bile is most commonly an incidental finding in dogs and should be interpreted in combination with clinical signs such as nausea, inappetence, cranial abdominal discomfort and/or laboratory changes such as increased ALP and/or increased Tbili.
- **Hyperechoic pancreas** – This finding is suggestive of pancreatic fibrosis, possibly secondary to chronic pancreatitis. A TLI is recommended to rule out exocrine pancreatic insufficiency (EPI), especially if clinical signs (weight loss, diarrhea, etc.) are present.

IMAGING PERFORMED BY

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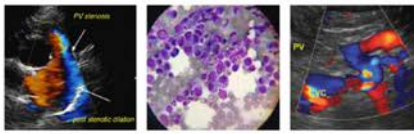
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SECONDARY FINDINGS

- **Hypo to anechoic splenic nodule** – likely represents a benign lesion such as a cyst, hematoma, nodular hyperplasia, extramedullary hematopoiesis, etc., however while considered less likely, infiltrative neoplasia can mimic benign lesions, and cannot be ruled out.
- Urinary bladder debris

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Given this patient’s reported presenting complaint of chronic diarrhea combined with the pancreatic changes, a gastrointestinal malabsorption panel (including cobalamin, folate, TLI and PLI) to Texas A&M GI Laboratory is recommended for further evaluation of GI and pancreatic function.

The proteinuria and liver enzyme changes are likely secondary to hyperadrenocorticism, given the bilateral adrenomegaly and bilateral adrenal nodules in this patient. If clinical signs of hyperadrenocorticism such as polyuria, polydipsia, polyphagia, etc. are present, then testing is recommended in the form of a low-dose Dexamethasone suppression test. Regardless of whether or not clinical signs are present, given the reported proteinuria, a urine protein to creatinine ratio is recommended, as is a blood pressure if not recently evaluated.

Additionally, a malignancy panel to include PTH, PTHrP, and ionized calcium is recommended to further evaluate the reported hypercalcemia.

In the meantime, empirical deworming with a 5-day course of Panacur, a probiotic such as Visbiome or Provable, and a diet transition based on trial and error response, beginning with hydrolyzed protein diet, could be considered for the diarrhea.

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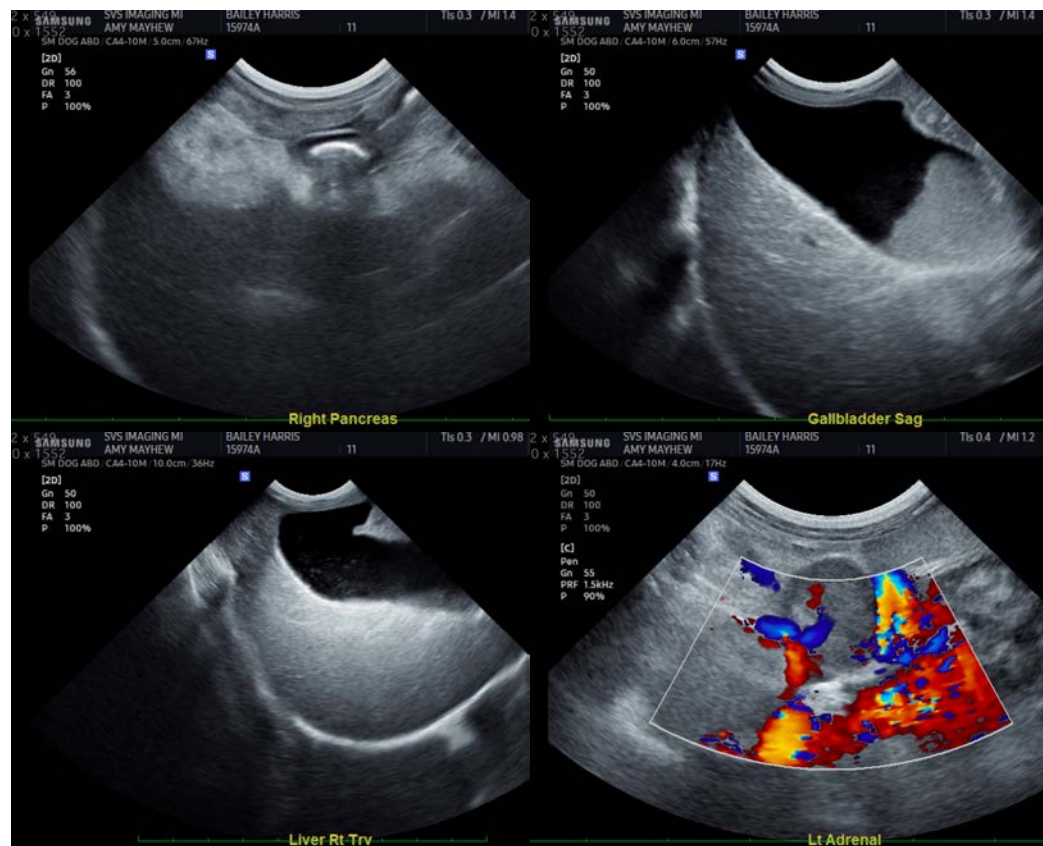
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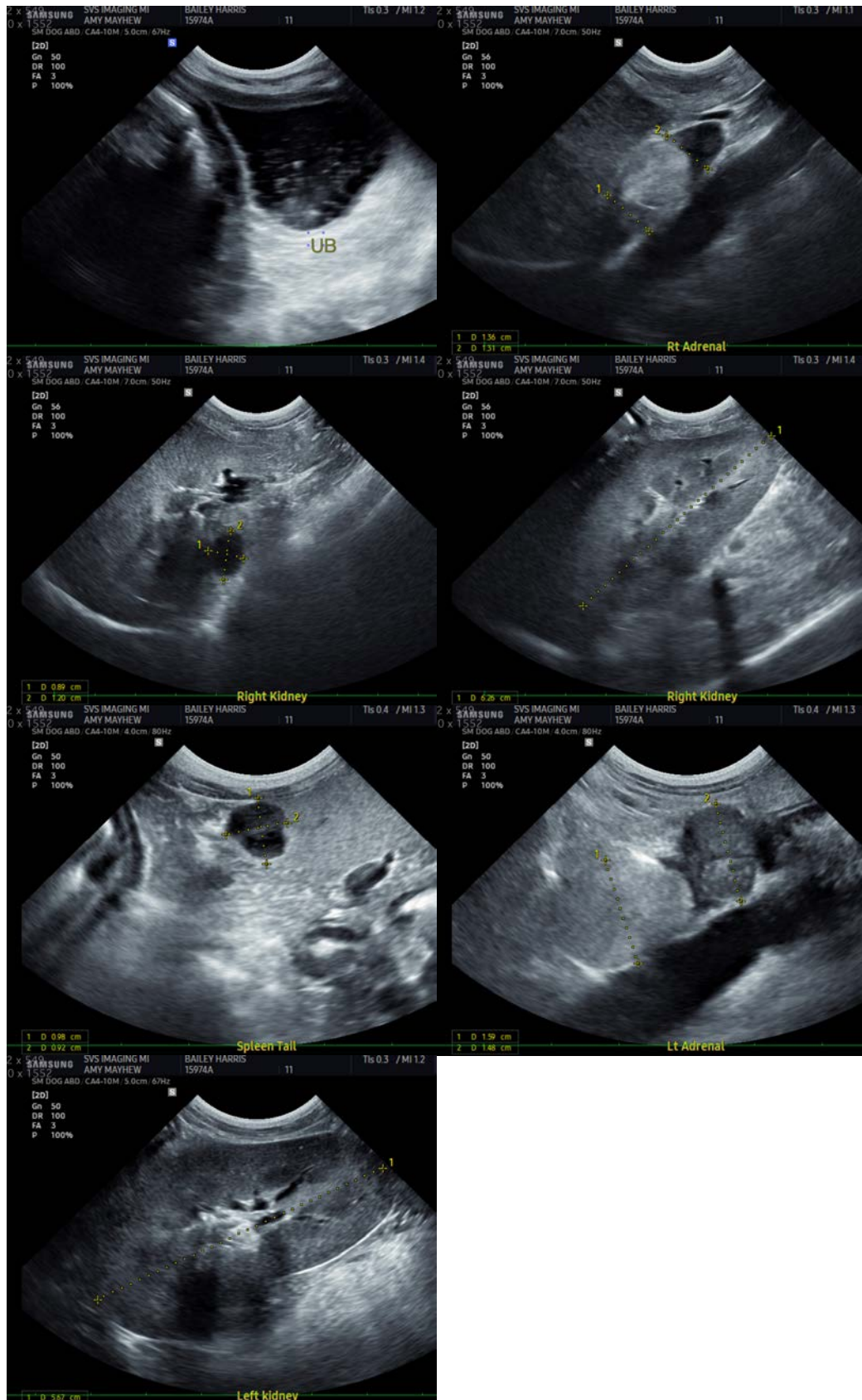
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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