



**PATIENT**

Manzana Welsh

**SPECIES**

Canine

**BREED**

Chihuahua

**SEX**

Spayed Female

**AGE**

10 Years

**WEIGHT**

8.3 Pounds

**INTERPRETED BY**

Beth Johnson, DVM  
DACVIM

**IMAGING PERFORMED BY**

Diane McFadden

**HOSPITAL NAME**

East Plane AH

**REFERRING VET**

Dr. Rosen

**INVOICE**

44738

**DATE**

2/2/23

**PRESENTING CLINICAL SIGNS**

Weight loss of about 3# in the last 8 months; hepatomegaly; no V/D/C/S; is PUPD

Abnormal PE/Chem/CBC/UA Results: SGOT 87, ALKP 302, GGT 14, ALT 99, WBC 35,900 with neuts 32,310; PCV 30%; amylase 1580, K 5.9, Ca8, gluc 69.

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

Urinary bladder is only mildly distended (empty). Visible contents are anechoic. Urinary bladder wall is unable to be fully assessed for pathology without further distension. No visible masses or cystoliths are observed. The trigone and visible pelvic urethra are normal thickness with a smooth mucosal surface. If there are urinary signs and/or concern for urinary bladder pathology, reassessment after complete filling is recommended.

The right kidney is normal in size (4.62 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.

The left kidney is normal in size (4.44 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**

The right adrenal gland is normal in size (1.6 cm long x 0.76 cm at the cranial pole and 0.34 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

The caudal pole of the left adrenal gland is plump/swollen (1.73 cm long x 0.48 cm at the cranial pole and 0.86 cm at the caudal pole). Normal shape and contour are maintained without evidence of capsular invasion or escape. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

**Spleen**

Spleen is subjectively large in size with a swollen and scalloped/undulating capsular contour. Multifocal coalescing nodules are noted throughout the parenchyma. Nodules are heterogeneous with some being cystic/anechoic, and others being hypoechoic. One nodule is characteristic of a "target" lesion with a hyperechoic center and hypoechoic rim. Splenic vasculature appears normal. Enhanced hyperechoic surrounding fat is noted.

**Liver**

Liver is subjectively enlarged with mildly irregular margins. Parenchyma is mottled by multifocal ill-defined, heterogeneous nodules including hypoechoic nodules as well as cystic anechoic nodules, resulting in a "moth-eaten" appearance. Visible vasculature and biliary tree appear normal without distension or congestion.

Gallbladder is moderately distended with anechoic bile as well as mild 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 visible stomach wall is normal in thickness and layering. The lumen of the stomach is mildly distended with echogenic non-shadowing luminal contents and gas consistent with normal ingesta. There is no evidence of obstruction, foreign material or infiltrative disease. Pyloric outflow tract appears patent.

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.

The visible colon is normal in wall thickness (< 0.2 cm) and layering. Contents are consistent with normal formed feces and gas.

**Pancreas**

The observed pancreas appears appropriately isoechoic to surrounding omental fat. The capsule is mildly irregular in shape. Parenchyma is mildly heterogenous and coarse. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

**Free Abdomen**

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

There is no apparent lymphadenopathy noted in these images.

No heart vasc or pericardial pathology noted in these images.

**PRIMARY FINDINGS**

- **Honeycomb Spleen** – This finding is strongly suggestive of infiltrative disease such as round cell neoplasia. Benign disease cannot be ruled out but is considered less likely.
- **Nodular Liver** - This finding is concerning for infiltrative disease such as round cell neoplasia or metastatic neoplasia. Benign disease (nodular hyperplasia) cannot be ruled out but is considered less likely.
- **Mild left adrenomegaly** – consistent with possible adrenal hyperplasia secondary to pituitary dependent hyperadrenocorticism versus possibly stress or normal patient variant. An adrenal adenoma is also possible, as is less likely early pheochromocytoma. Interpret in combination with clinical signs of hyperadrenocorticism or other adrenal disease.

**SECONDARY FINDINGS**

- **Mild 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.
- **Pancreatic age-related remodeling** – Mild irregularities are consistent with benign age-related change. Low-grade smoldering chronic pancreatitis cannot be ruled out and should be suspected in the face of appropriate clinical signs.



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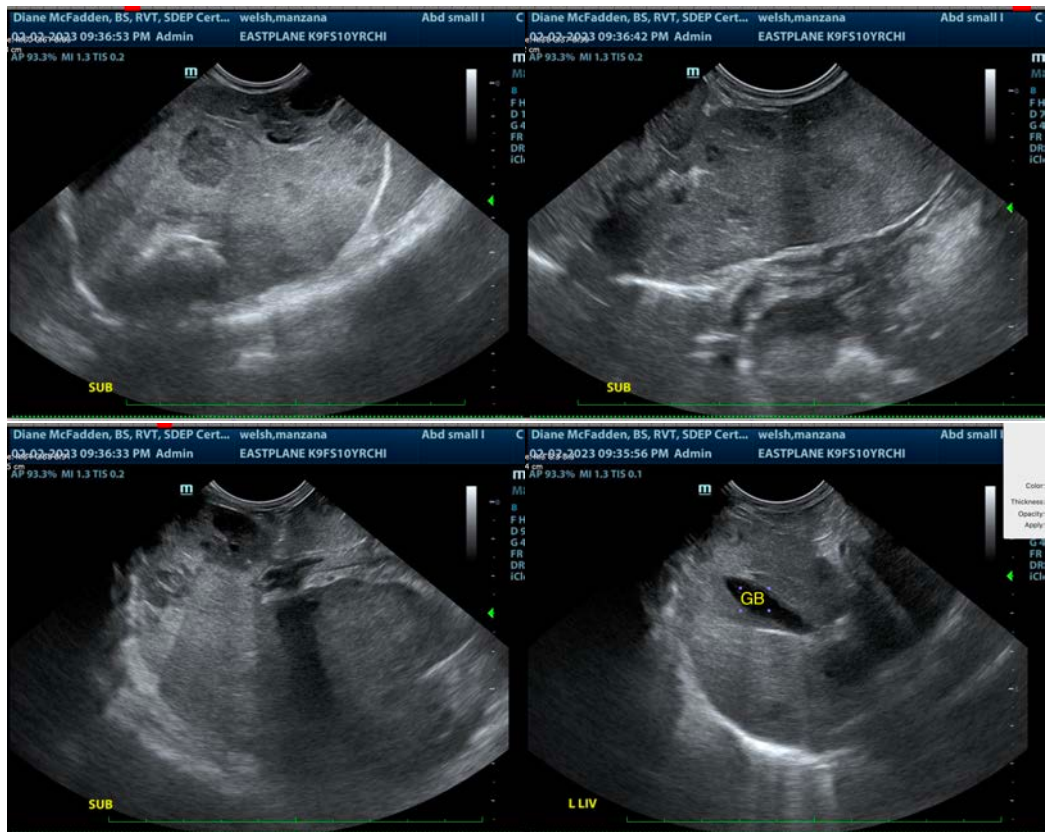
**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

While cystic lesions can be multifocal and benign, given the combined appearance of the spleen and liver in addition to some target lesions and loss of normal architecture, infiltrative neoplasia is a large concern. Therefore, recommendations include:

Three view thoracic radiographs are recommended for further assessment of cardio-pulmonary status as well as to further evaluate for any evidence of metastatic disease, if not recently evaluated.

Fine needle aspirates of the spleen and liver are recommended if patient's coagulation status is appropriate.

The reported PU/PD could be related to the mild adrenomegaly. However, further evaluation of hyperadrenocorticism is not recommended in the face of a concurrent, potentially more serious illness as is suspected in this patient.





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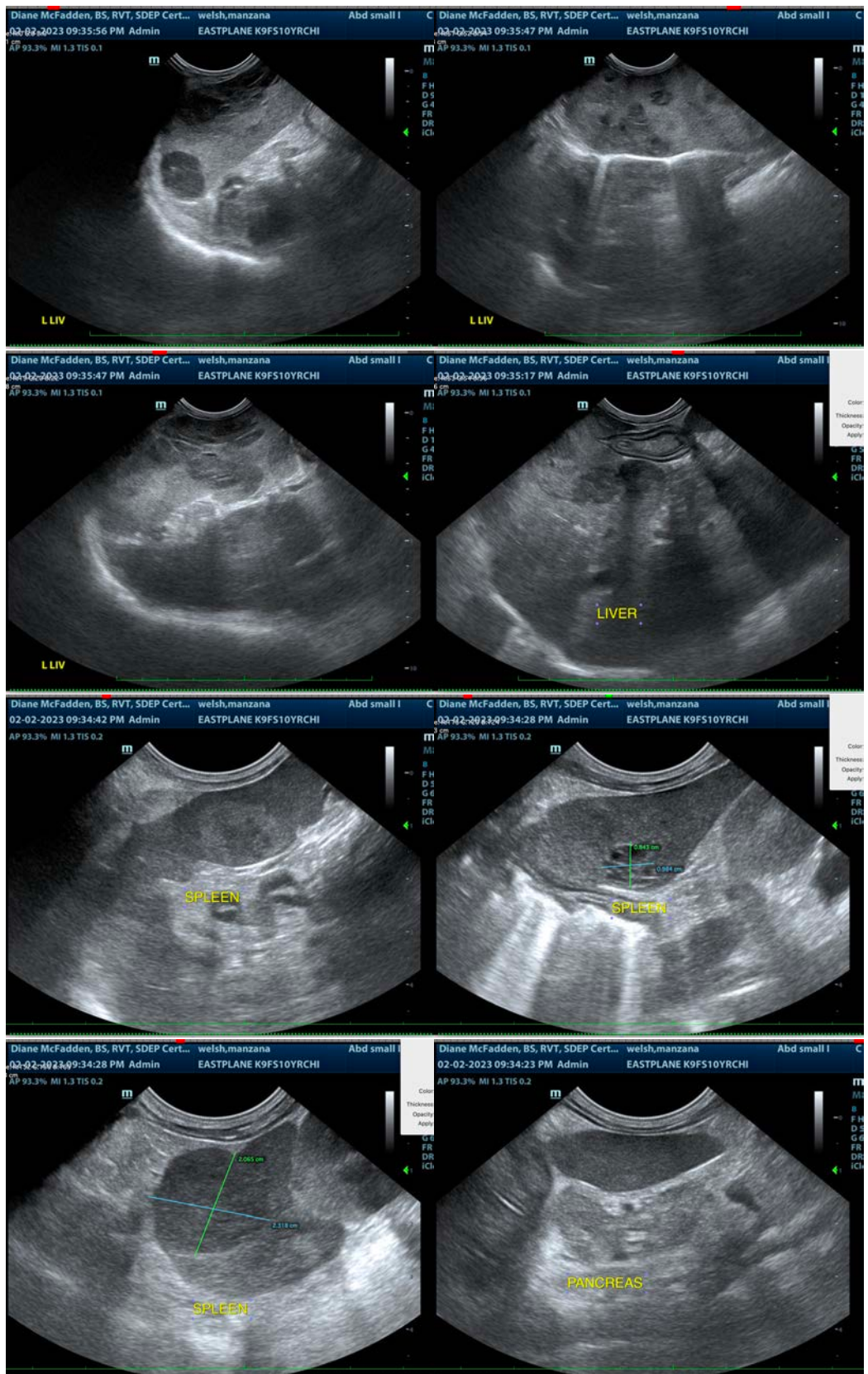
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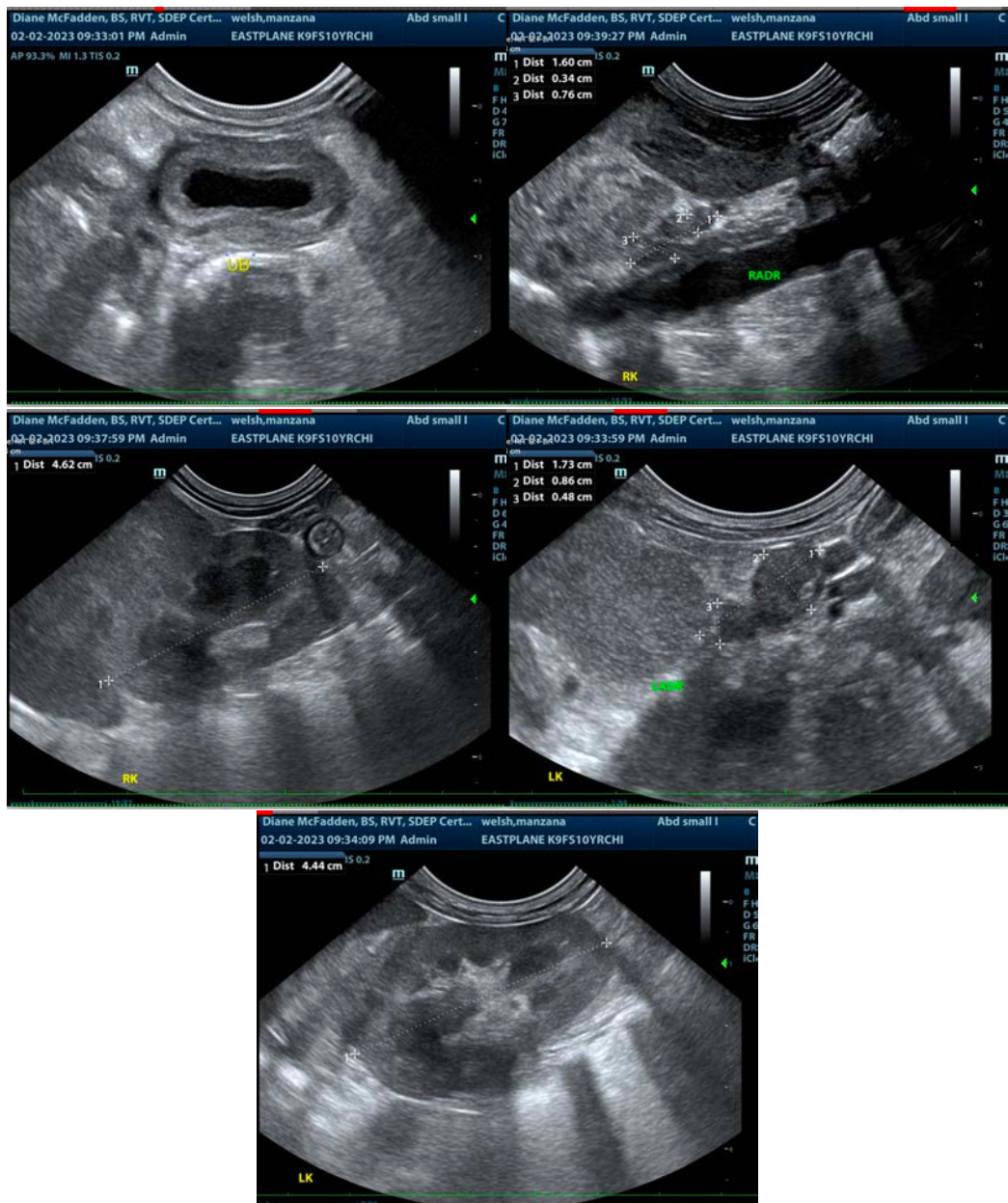
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

**Beth Johnson, DVM, DACVIM**  
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