

**DATE PRESENTING CLINICAL SIGNS**

2/27/23 History: Elevated ALT of no known cause.

PATIENT

Nina King Current Medications: None.
 Lab Results: 1/9/23 pre anesthetic bloodwork performed for skin tag removal surgery. Showed- ALT 203. No clinical signs. Owner elected to hold off on surgery and recheck labs in 4 weeks while monitoring CSs. Recheck BW 2/16/23- ALT 355, still no clinical signs but owner elected US to evaluate liver.

SPECIES

Canine Date of Previous IntraPet Ultrasound: No previous.
 Sedation: Not required to complete full diagnostic ultrasound.
 IV sedation utilized for liver FNA.

BREED

Pitbull Mix Stat Report: Not requested.
 Imaging Performed By: Rachel Brillhart, RDMS.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**SEX**

Spayed Female **Urinary System**
 Urinary bladder is adequately distended with anechoic contents. No masses, inflammatory changes, echogenic sediment or cystoliths are observed. The urinary bladder, trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.

AGE

12/20/13 Left kidney is normal is size (6.85 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.

WEIGHT

60 Pounds Right kidney is normal is size (6.6 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.

INTERPRETED BY

Beth Johnson, DVM
 DACVIM

HOSPITAL NAME

Alexander AH

REFERRING VET

Dr. Alexander

INVOICE

21304

Adrenal Glands

Left adrenal gland is normal in size (3.37 cm long x 0.88 cm at cranial pole and 1.2 cm at caudal pole), shape and overall architecture, echogenicity and echotexture. Visible surrounding vasculature appears normal. A hyperechoic nodule is noted in the caudal pole of the left adrenal gland. Nodule does not disrupt normal shape and/or architecture.

Right adrenal gland is normal in size (3.11 cm long x 0.94 cm at cranial pole and 0.99 cm at caudal pole), shape and overall architecture, echogenicity and echotexture. 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. Splenic vasculature appears normal.

Liver

Liver is subjectively enlarged with mildly irregular margins. Parenchyma is heterogenous characterized by multiple poorly defined hypoechoic nodules within otherwise hyperechoic liver parenchyma. Visible vasculature and biliary tree appear normal without distension or congestion.

Gallbladder is non-distended in size. The wall is smooth without visible thickening. Luminal contents are primarily anechoic. There is no evidence of cystic or common bile duct dilation.

Gastrointestinal

The visible stomach wall is normal in thickness and layering. The lumen of the stomach is empty with 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. 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 and layering. Contents are consistent with normal formed feces and gas.

Pancreas

The observed pancreas appears appropriately isoechoic to surrounding omental fat. Visible capsule is smooth and normal in contour. Visible pancreatic parenchyma is homogenous and unremarkable. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

Free Abdomen

The medial iliac lymph nodes are prominent in size with swollen capsular contour. Normal elongated shape (length to width ratio) is maintained. There is no loss of parenchymal detail.

A hypoechoic 1.0 cm x 2.0 cm cranial abdominal/potentially splenic lymph node is noted.

There is no evidence of free fluid or visible complications post fine needle aspirate of the liver.

Other

There is no evidence of heart base or pericardial pathology noted in these images at this time. If cardiac function evaluation is desired a full echocardiogram is recommended.

ULTRASONOGRAPHIC FINDINGS

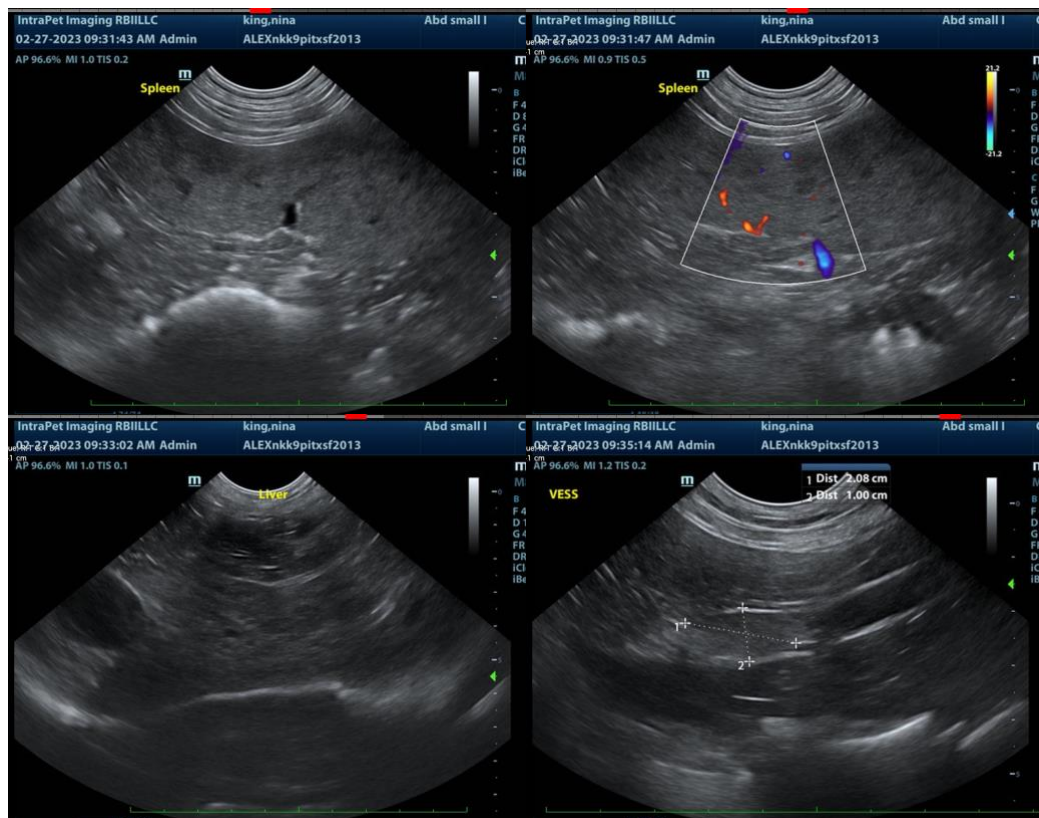
- Heterogenous Liver – These changes are most consistent with benign processes such as nodular hyperplasia, steroid (vacuolar) hepatopathy, extramedullary hematopoiesis or possibly chronic inflammatory disease and less commonly infiltrative round cell or metastatic neoplasia.
- Honeycomb Spleen – This finding is strongly suggestive of infiltrative disease such as round cell neoplasia. Benign disease cannot be ruled out but is considered less likely.
- Hyperechoic adrenal nodule in the caudal pole of the left adrenal gland – 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.
- Cranial abdominal lymphadenopathy- Rule outs for which include both reactive lymphadenopathy, as well as infiltrative neoplasia and can't be differentiated without tissue sampling, as well as reactive medial iliac lymph nodes – infiltrative neoplastic disease cannot be ruled out but is considered less likely.

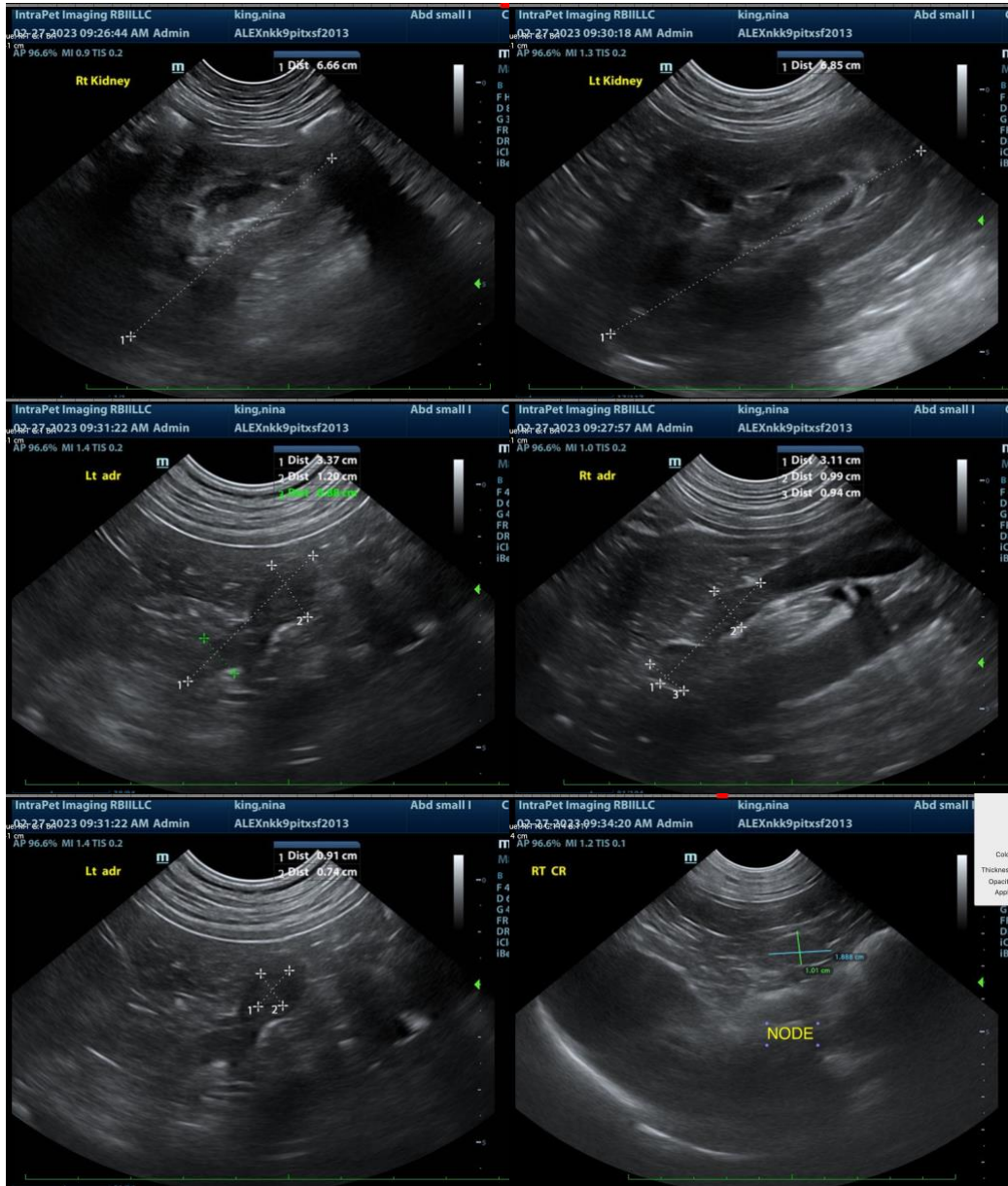
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

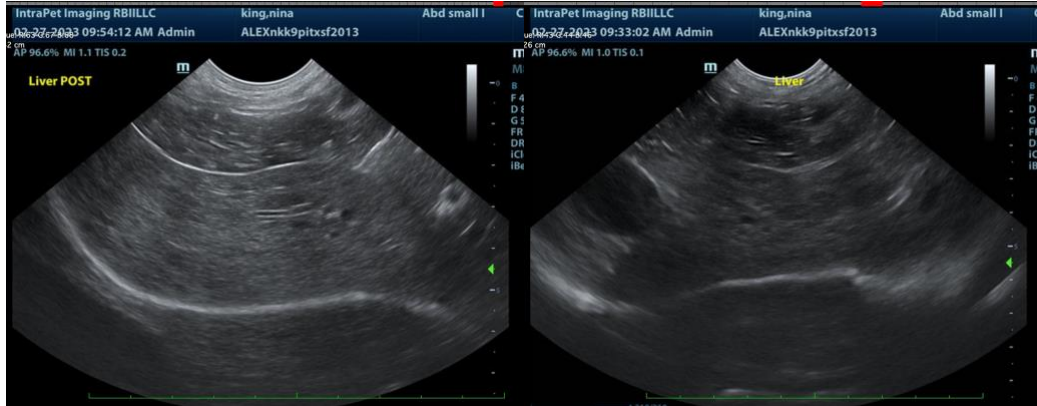
Three view thoracic radiographs are recommended for further assessment of cardio-pulmonary status as well as to further evaluate for any evidence of metastatic disease, if not recently evaluated.

As was reportedly already performed, a fine needle aspirate of the liver is recommended with submission of samples for cytology. If a diagnosis is not obtained cytologically, an additional fine needle aspirate of the spleen is recommended if patients coagulation status is appropriate.

In the meantime, testing for Leptospirosis could also be considered, followed by a course of empirical antibiotics and hepatic nutraceuticals with monitoring of ALT for improvement. If improvement is noted, antibiotics should be continued until liver enzymes either normalize or plateau (recheck every 2-3 weeks). However, if improvement is not noted, and/or enzyme increase progresses, antibiotics should not be continued long-term. If a diagnosis is not obtained cytologically, a liver biopsy, including copper level assessment may ultimately be warranted.







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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