



<b>DATE</b>	<b>PRESENTING CLINICAL SIGNS</b>
8/22/22	History: An increase in ALT & ALK that was noted 7/11/22. After a month of hepaticlear, the ALT dropped WNL, but the ALK has increased even further 8/11/22
<b>PATIENT</b>	Current Medications: Hepaticlear daily supplements.
Max Jackson	Lab Results: 7/11/22: ALT: 135, ALK: 245. 8/11/22: ALK: 377
<b>SPECIES</b>	Date of Previous IntraPet Ultrasound: No previous.
Canine	Sedation: Not required to complete full diagnostic ultrasound.
<b>BREED</b>	Stat Report: Not requested.
Border Collie Mix	Imaging Performed By: Rachel Brillhart, RDMS.
<b>SEX</b>	<b>ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN</b>
Neutered Male	<b>Urinary System</b>
<b>AGE</b>	The <b>urinary bladder</b> , trigone, and pelvic urethra presented normal thicknesses and normal tone. The ureters were not visible which is normal. No uroliths or sediment were visualized, and anechoic urine was present. No evidence of inflammatory or neoplastic changes were noted. Ureteral papillae were normal.
6/11/16	The <b>kidneys</b> revealed normal size and structure, corticomedullary definition and ratio for this age. The cortices presented largely uniform texture with normal echogenic relationship to liver and spleen. Medullary structure differed distinctly from the cortex and no evidence of pelvic dilation was present. The capsules were acceptably uniform without significant irregularities. Pinpoint mineralizations were noted, measuring up to 0.49 cm in the left kidney. The left kidney measured 8.84 cm. The right kidney measured 8.6 cm.
<b>WEIGHT</b>	<b>Adrenal Glands</b>
131 Pounds	Both <b>adrenal glands</b> were visualized and recognized as having normal shape, size, position and echogenicity for this breed. The phrenic vasculature, glandular echogenicity and detail were unremarkable. Capsule, cortex, and medullary definition were normal for this age patient. The left adrenal gland measured 3.79 cm x 0.9 cm at the caudal pole and 0.95 cm at the cranial pole. The right adrenal gland measured 2.69 cm x 0.93 cm at the cranial pole and 0.93 cm at the caudal pole.
<b>INTERPRETED BY</b>	<b>Spleen</b>
Eric Lindquist, DMV DABVP, Cert. IVUSS	The <b>spleen</b> revealed a 2.12 cm hypoechoic target type nodule in the mid body with other hyperechoic nodular changes (up to 1.26 cm) and irregular mixed echogenic nodule, measuring 2.55 cm.
<b>HOSPITAL NAME</b>	<b>Liver</b>
Abbey AH	The <b>liver</b> revealed diffuse hyperechoic coarse architecture and increased portal markings were present. Multifocal areas of lobar biliary mineralization. A minor amount of gallbladder sand was noted at the neck of the gallbladder, yet nonobstructive at the time of the sonogram.
<b>REFERRING VET</b>	<b>Gastrointestinal</b>
Dr. Kuhlman	Examination of the <b>gastrointestinal tract</b> revealed a stomach and intestine free of stasis, of normal wall thickness, acceptable curvilinear mural detail, and peristaltic activity. Small and large intestine demonstrated normal luminal chyme and stool consistency respectively. No obstructive or overt infiltrative disease was noted. No associated abnormal lymphatic activity was noted.
<b>INVOICE</b>	<b>Pancreas</b>
16991	

The base and limbs of the **pancreas** were observed to be largely isoechoic to surrounding omental fat. Pancreatic duct and capsular contour were acceptably normal and parenchyma respected normal curvilinear patterns. No overt evidence of active inflammatory or neoplastic disease was noted.

### Other

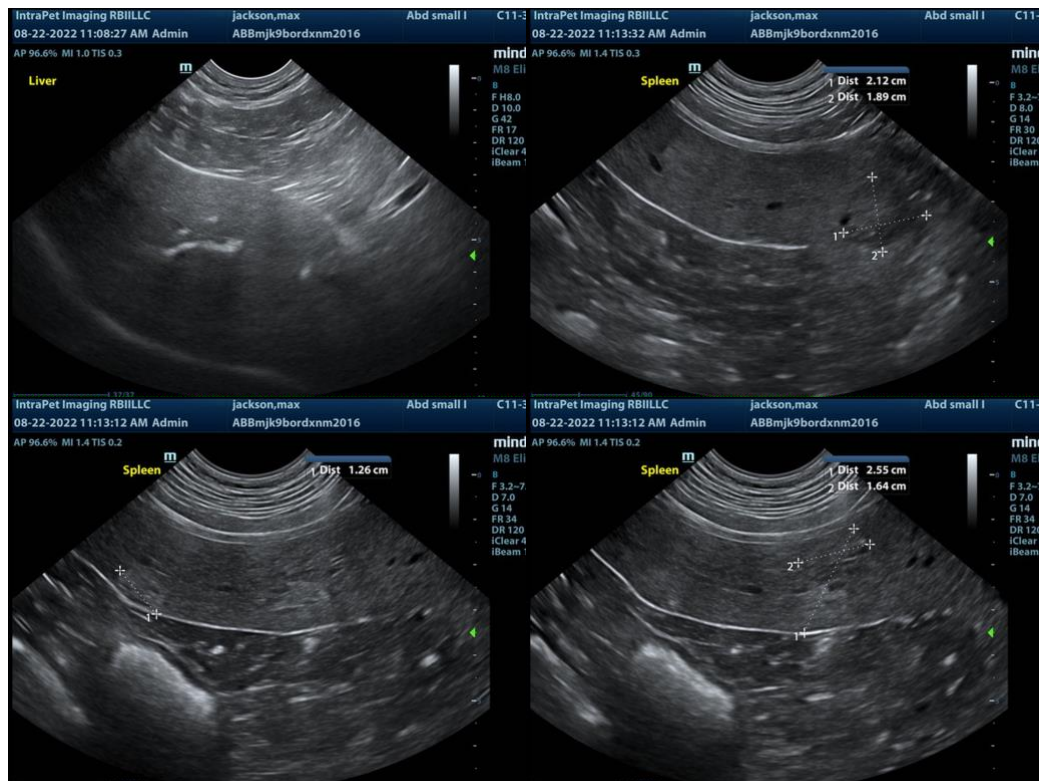
A rapid view of the **heart** revealed no evident pathology in the right auricle or pericardium, yet chest radiographs are recommended to assess for metastatic disease.

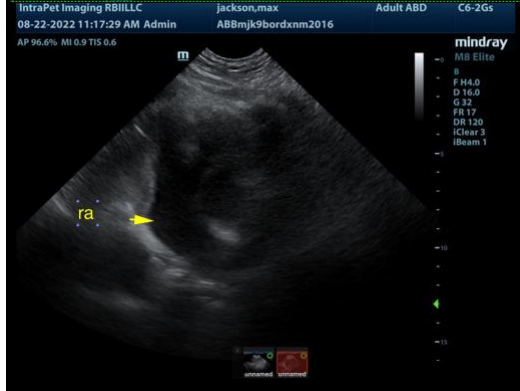
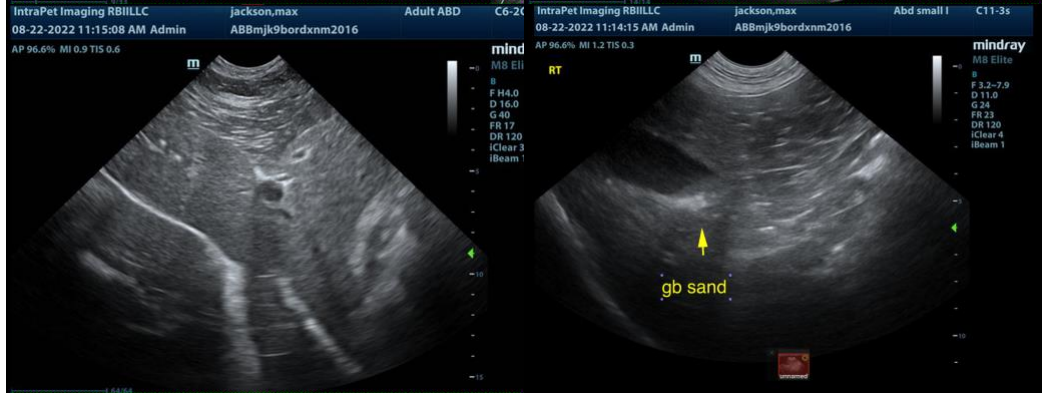
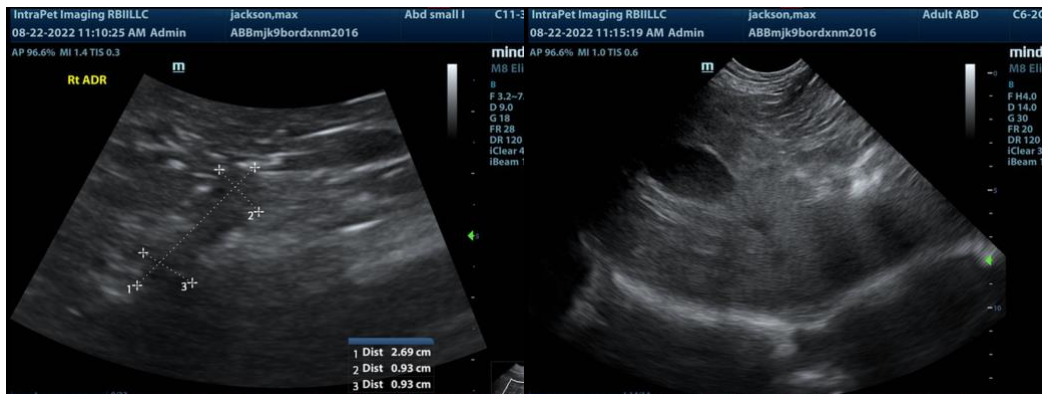
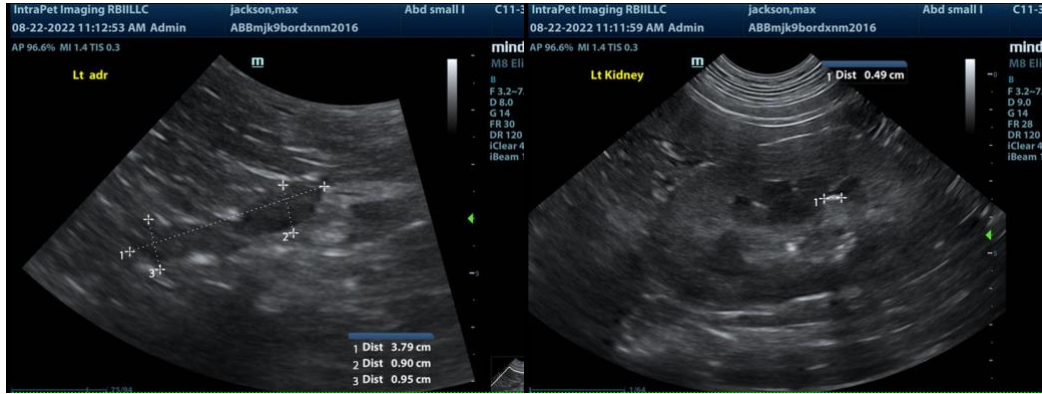
### ULTRASONOGRAPHIC FINDINGS

- Chronic inflammatory hepatopathy with nonobstructive lobar biliary calculi (likely secondary to chronic inflammatory disease)
- Minor gallbladder sand, nonobstructive
- Slight renal mineralization
- Splenic nodules

### INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Bile acid profile is warranted. FNA or core biopsy of the liver is warranted. The splenic nodules are a strong concern. Chest radiographs are warranted to assess for metastatic disease. A more direct option would involve splenectomy and liver inspection and biopsy. No evidence of metastatic disease to the liver. Splenic differentials include emerging hemangiosarcoma, round cell neoplasia and less likely pronounced nodular hyperplasia possible. Copper quantification may be appropriate upon liver biopsy.





**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.

**Eric Lindquist**, DMV, DABVP, Cert. IVUSS, CEO of SonoPath.com  
info@SonoPath.com