



## PATIENT

Maya Hertling

## SPECIES

Canine

## BREED

Labrador

## SEX

Spayed Female

## AGE

5 years

## WEIGHT

37.8 kg

## INTERPRETED BY

Beth Johnson, DVM  
DACVIM

## IMAGING PERFORMED BY

Dr. Jill Rankin

## HOSPITAL NAME

Springbank Pet  
Hospital

## REFERRING VET

Dr. Marcia

## INVOICE

10781

## DATE

11/20/2025

## PRESENTING CLINICAL SIGNS

Acute jaundice and anorexia. Elevated TBil @ 164, small amount of free fluid on AFAST with hyperechoic pancreas and heterogeneous spleen.

## ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

### Urinary System

The 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.

The right kidney is normal in size (7.3 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 (7.3 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 areas of the adrenal glands are examined without evident adrenal gland pathology.

### Spleen

Spleen is mildly enlarged (2.5 cm thick at the hilus) with normal smooth margins. Parenchyma is normal in echogenicity with a diffusely coarse/heterogeneous echotexture. No discrete sizable focal nodules or masses are observed. Splenic vasculature appears normal.

### Liver

Liver is subjectively enlarged with mildly irregular margins. Parenchyma is mottled by multifocal discrete hypoechoic nodules of varying sizes "moth-eaten". Visible vasculature and biliary tree appear normal without distension or congestion.

The gallbladder is non-distended in size. The gallbladder wall is thick and edematous characterized by an intramural hypo to anechoic rim or "double rim effect or halo sign". 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 (< 0.2 cm) and layering. Contents are consistent with normal formed feces and gas.



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## Pancreas

The area of the pancreas contains irregular hyperechoic pancreatic remodeling.

## Free Abdomen

There is a moderate amount of anechoic free fluid noted in these images.

Mesenteric 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.

## ULTRASONOGRAPHIC FINDINGS

- The nodular appearing liver is concerning for infiltrative disease such as round cell neoplasia or potentially even metastatic neoplasia. Having said that, a chronic inflammatory process, especially in a younger lab can't be definitively ruled out.
- Gallbladder "halo sign" – GB wall edema is a non-specific change and can be seen with any underlying etiology (ie vasculitis, hypoalbuminemia, CHF, other) that results in edema, as well as immune-mediated disease, anaphylactic shock, other. Cholecystitis cannot be ruled out.
- 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.
- Moderately reactive mesenteric lymph nodes – infiltrative neoplastic disease cannot be ruled out but is considered less likely.
- A moderate amount of Free fluid is of unknown origin. Differentials (unless already ruled out) could include increased hydrostatic pressure (cardiac disease and/or vascular or lymph blockage), decreased oncotic pressure (low albumin), vasculitis, paraneoplastic fluid, rupture/leakage of/from an organ (GI, GB, UB, other), blood (hemoabdomen), other.
- Mildly Coarse splenomegaly – can be associated with congestion caused by sedation (if sedated) but can also be associated with diffuse infiltrative disease. Both benign conditions such as extramedullary hematopoiesis, lymphoid hyperplasia, as well as infiltrative neoplastic diseases such as round cell neoplasia should be considered.

## 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.

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.

Fine needle aspirates of the liver +/- spleen and sampling of the free abdominal fluid for analysis and cytology, are all recommended if patient's coagulation status is appropriate.

If a diagnosis is not obtained, testing for leptospirosis could be considered.



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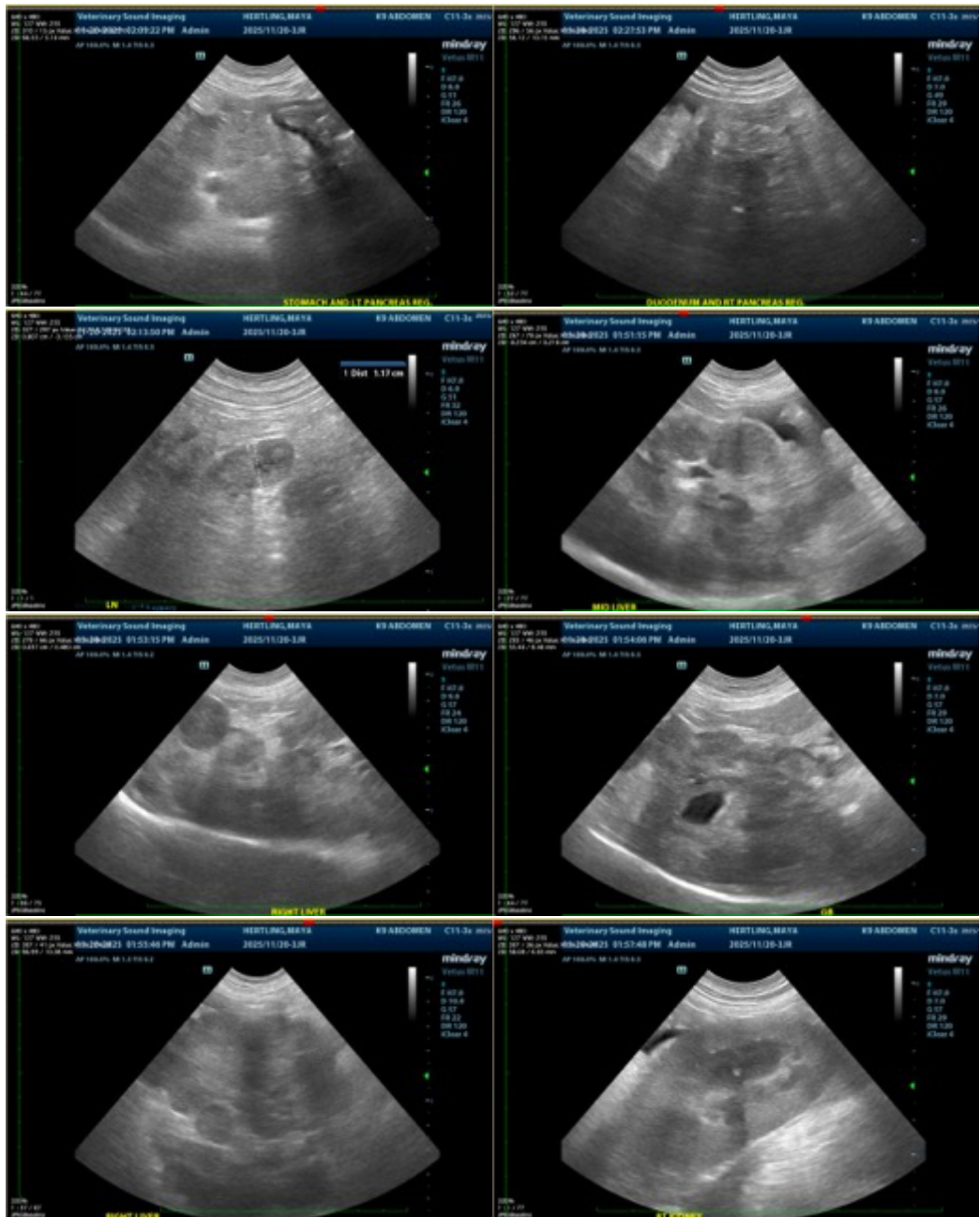
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Finally, if a diagnosis is not obtained, ultimately, a liver biopsy being sure to include copper level assessment, may be necessary for a definitive diagnosis and therefore to further guide medical management.





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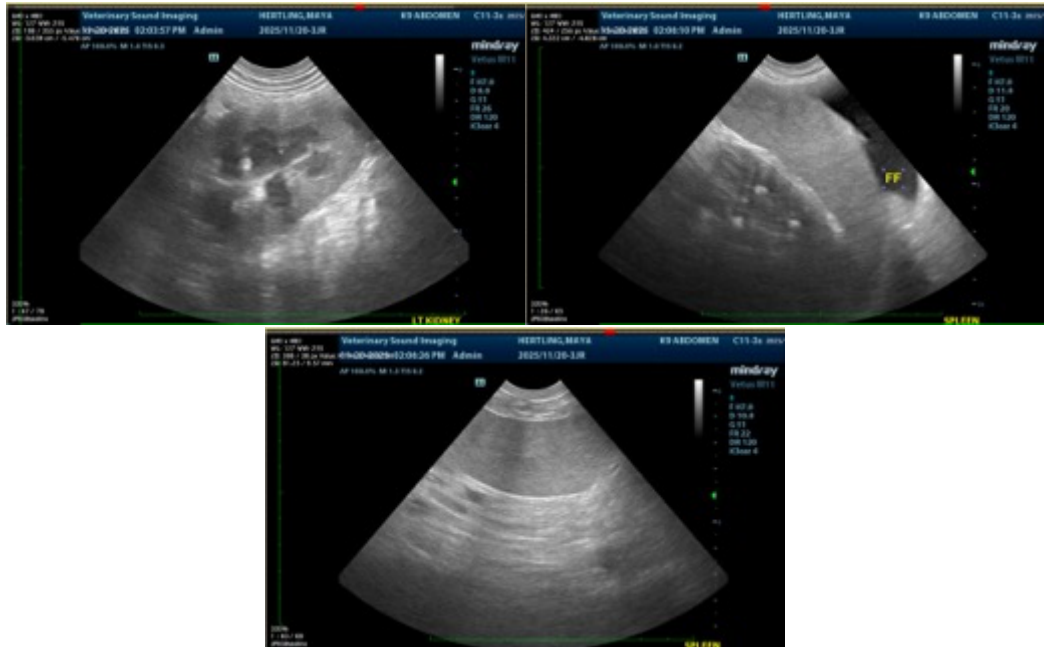
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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