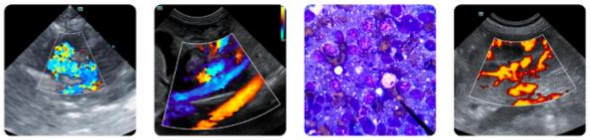


PATIENT

Abby McAndrews

SPECIES

Canine

BREED

Miniature Schnauzer

SEX

Spayed Female

AGE

12 Years

WEIGHT

15 lbs

INTERPRETED BY

Greg Kuhlman, DVM, DACVIM (SAIM)

IMAGING PERFORMED BY

Dr. Michael Schacher

HOSPITAL NAME

Emergency Veterinarians of Idaho, LLC

REFERRING VET

Dr. Michael Schacher

INVOICE

16443

DATE

05/22/26

PRESENTING CLINICAL SIGNS

Vomiting, not eating, lethargic. Abdominal x-rays concerning for abdominal masses

Abnormal PE/Chem/CBC/UA Results: moderate to marked liver enzyme increases, 403 CPLI, mild BUN increase

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

Urinary bladder is adequately distended. Contents include primarily anechoic fluid with a moderate amount of 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 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. A scant pocket of free fluid was noted at the dorsal aspect of the urinary bladder. The urinary bladder wall appears thickened measuring 0.40 cm width. The luminal margin is irregular in shape, consisting of possible chronic bacterial cystitis.

The left kidney has overall normal size and shape with smooth peripheral margination. A normal 1:3 cortex to medulla ratio is maintained. The medulla and cortices are uniform in texture with some mild increased cortical echogenicity and mild loss of corticomedullary distinction, expected in this age patient. Non-obstructive linear multifocal hyperechoic diverticular foci with acoustic shadowing are noted. The left kidney measures 3.7 cm.

The right kidney presents normal size with normal shape and architecture. Mild loss of corticomedullary distinction. Non-obstructive linear multifocal hyperechoic diverticular foci with acoustic shadowing are noted. The right kidney measured 4.6 cm in length. Scant pockets of free fluid, cranial to the liver and surrounding the right kidney were visualized.

Adrenal Glands

The left adrenal gland presents normal shape and homogenous parenchyma. The phrenic vasculature is unremarkable. The caudal pole measures 4.4 mm and the cranial pole is not seen.

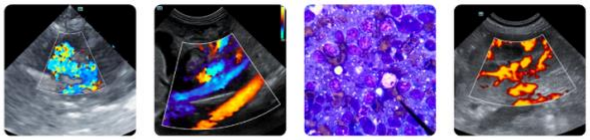
The right adrenal gland presents normal shape and homogenous parenchyma. The phrenic vasculature is unremarkable.

Spleen

The spleen is normal in size, shape, margination and echogenicity. No masses are seen.

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. In the right liver, there is an 8.9 cm x 6.8 cm heteroechoic mass lesion present, most likely primary hepatobiliary neoplasia such as hepatocellular carcinoma, less likely cholangiocarcinoma.



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Gallbladder is moderately distended with anechoic bile as well as suspended and moderate 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.

Gastrointestinal

The intestines have normal wall layering and thickness. Colon contains normal contents with normal wall thickness.

The visible stomach wall is normal in thickness and layering. The stomach is moderately distended with echogenic non-shadowing luminal contents and gas consistent with normal ingesta. There is no evidence of obstruction, foreign material or infiltrative disease. If patient was appropriately fasted, delayed gastric emptying could be considered. Non-shadowing foreign material is considered less likely but cannot be definitively ruled out. If clinical signs are consistent (vomiting, etc.), recommendations include supportive medical care, 24 hours fasting and re-image.

Pancreas

The visible left and right pancreas is normal in size with normal echogenic parenchyma and surrounded by normal peri-pancreatic mesentery.

Free Abdomen

There are no enlarged abdominal lymph nodes seen on this exam. No free abdominal fluid is seen.

ULTRASONOGRAPHIC FINDINGS

- Moderate urinary bladder debris with bladder wall thickening.
- Age-related renal changes with mineralization.
- Full stomach.
- Heterogenous liver with hepatic mass lesion.
- Moderate gallbladder debris- nonobstructive at the time of the sonogram.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Recommend urine culture if not already performed.

The changes seen to the liver may be age-related or more likely given the elevated liver values, due to a chronic hepatopathy. Differentials include infiltrative neoplasia such as lymphoma or mast cell disease. Recommend fine needle aspirate of the liver with submission for cytology. If round cell neoplasia is ruled out, if liver values remain persistently elevated, recommend liver biopsy. Submit liver samples for histopathology (aerobic, anaerobic, bacterial culture) and for copper quantitation.

Recommend ursodiol at 15 mg/kg by mouth split into two daily doses, rechecking appearance of gallbladder in 6-8 weeks of ursodiol treatment.

Given the appearance of the patient's kidneys, recommend full screening, monitoring, and managing patient per International Renal Interest Society guidelines for possible chronic kidney disease. Recommend, if possible, ultrasound guided fine needle aspirate of fluid sample with submission for fluid analysis and cytology to help determine etiology of fluid.

Recommend three view chest x-rays to evaluate for possible pulmonary neoplastic metastatic disease.

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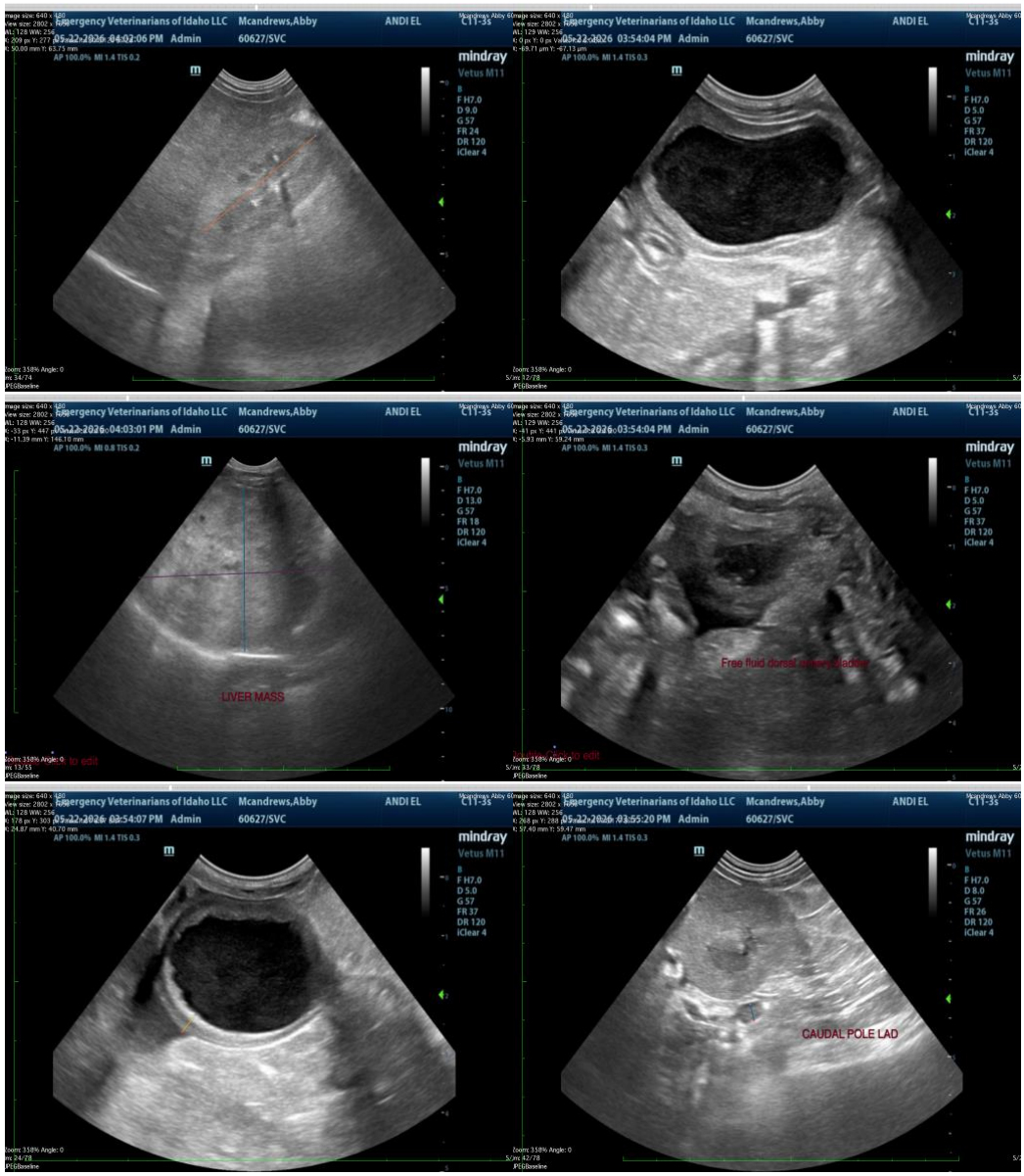
Recommend CT scan of abdomen for presurgical planning. Recommend surgical resection of liver mass with submission for histopathology. If patient does have surgery for liver mass resection, recommend obtaining liver biopsies during that surgical procedure.

No obvious evidence of pancreatitis seen on this exam, however, cPLI was mildly elevated. Recommend treating patient supportively for mild pancreatitis. Consider switching patient to ultra-low-fat diet if not already performed.

Suspect that the patient's elevated liver value is most likely due to the right-sided liver mass. Patient's clinical signs may also be due to the right-sided liver mass.



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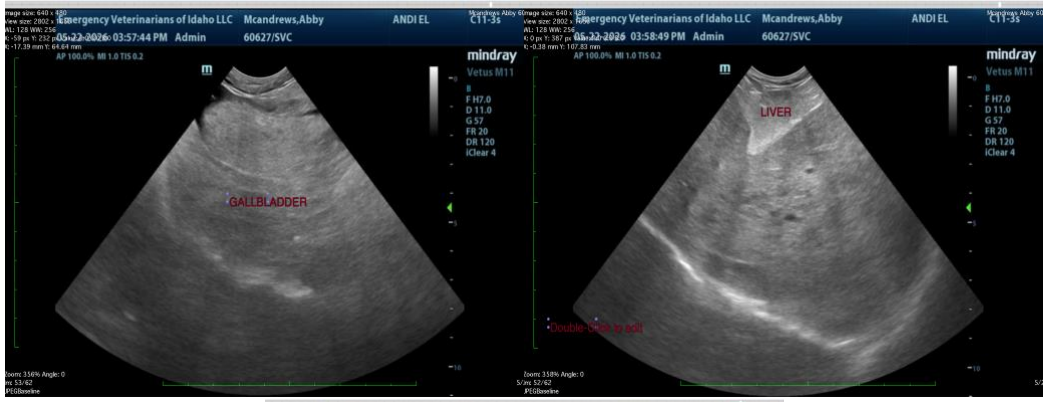

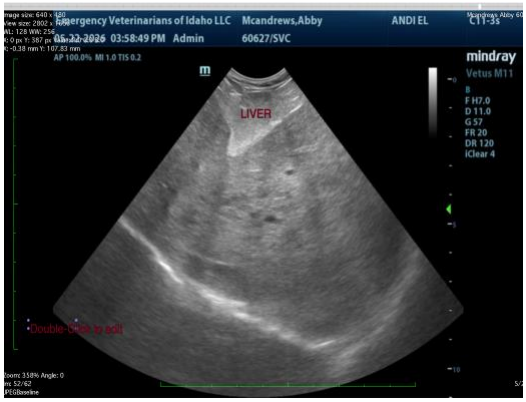

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Greg Kuhlman, DVM, DACVIM (SAIM)
Veterinary Internal Medicine Specialist
info@SonoPath.com