SonoPath
Clinical Sonography & Telecytology
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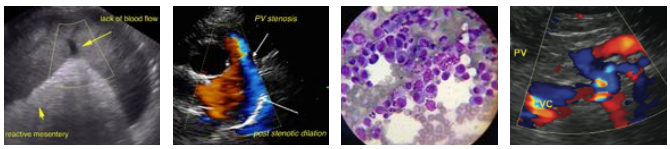


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1-800-838-4268 info@sonopath.com

**PATIENT**
Ginger Hoffman

**SPECIES**
Canine

**BREED**
Red Heeler

**SEX**
Spayed female

**AGE**
14 years

**WEIGHT**
61 lbs

**INTERPRETED BY**
Jessica Midence, DVM, DACVIM (SAIM)

**IMAGING PERFORMED BY**
Kaitlyn McDaniel

**HOSPITAL NAME**
Elizabeth AH

**REFERRING VET**
Dr. Anderson

**INVOICE**
42721

**DATE**
2/10/23

## PRESENTING CLINICAL SIGNS

History: Lab panel done due to drinking and peeing more. Abnormalities found on lab testing. Urine culture pending.
Abnormal PE/Chem/CBC/UA Results: PE: Generalized muscle atrophy typical for age. Chronic medial buttress and crepitus of stifles, loss of proprioception in rear limbs, sclerosis normal for age, left nostril with dry planum and some discharge dried to it, small cyst on forehead. cbc: Normal chem: SDMA 15 ug/dL, Creatinine 2.4 mg/dL, BUN 54 mg/dL, ALT 435 U/L, ALP 323 U/L, Chol 406 mg/dL, Lipase 1446 U/L cPL: 1732 ug/L proBNP 1986 pmol/L UA: 1.022 sg, pH 7.0, 30mg/dL protein, Clear sediment UPC: 0.73 URINE CULTURE PENDING

## ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

### *Urinary System*

The urinary bladder mucosa, trigone, and visible urethra are normal in thickness and there is no evidence of mucosal irregularities. The bladder lumen is mildly distended with anechoic urine and bladder thickness is considered normal for volume of urine.

The left kidney is normal in size, shape and architecture with smooth peripheral margins and measures 5.33 cm. There is a mild decrease in corticomedullary distinction with normal echogenicity. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter.

The right kidney is normal in size, shape and architecture with smooth peripheral margins and measures 5.22 cm. There is a mild decrease in corticomedullary distinction with normal echogenicity. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter.

### *Adrenal Glands*

The left adrenal gland is enlarged in size measuring 0.88 cm at the caudal pole and 0.77 cm at the cranial pole. The left adrenal gland has normal shape and it is normal in appearance and echogenicity.

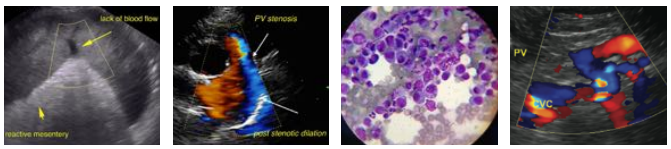
The right adrenal gland was not visualized; however, the area of the right adrenal gland was normal and no masses were seen.

### *Spleen*

The splenic has a normal echotexture and is enlarged length wise, likely secondary to sedation. It has a normal thickness (less than 2.0 cm). There are several, hypoechoic, myelolipomas. The capsule is smooth with no irregularities. The splenic vasculature is normal without signs of congestion or thrombosis.

### *Liver*

The liver is isoechoic to the spleen with rounded contours, structure and mostly with smooth peripheral margins. There is a liver lobe extending from the left extending from the left that is adjacent tot eh head of the spleen that is hypoechoic compared with the remainder of the liver (but would be considered a more normal echogenicity for liver). There is mild, hyperechoic fat around this area. At the very cranial portion of the liver adjacent to the diaphragm the liver is very mottled with both hyperechoic and

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hypoechoic areas. While the borders are indistinct precluding a definitive assessment, the echogenicity change is focal and there are some areas that appear mass like and it does bulge the vasculature. This area measures 4.9 x 4.5 cm and is concerning for a liver mass. There is also a cystic liver nodule that measures 1.5 x 1.6 cm.

The gallbladder lumen is moderately distended. There is a significant amount of echogenic debris that is both dependent and adherent to the wall. There are subtle cystic changes to the mucosal wall consistent with cystic mucinous hyperplasia. The wall is a normal thickness and smooth. Luminal contents are anechoic. The cystic and common bile ducts are normal/not visible.

### *Gastrointestinal Tract*

The gastric lumen is empty. The stomach wall is of normal wall thickness with some variability due to rugal folds. There is normal gastric wall layering. There are no masses or focal lesions observed and the pyloric outflow tract appears normal.

Several loops of small intestine measure thick up to 0.58 cm (normal is up to 0.44 cm). The layering is preserved and otherwise The lumen of the small intestine was empty with no signs of ileus, obstruction or foreign material. No focal lesions observed.

The section of colon are visualized with formed fecal material and gas shadowing distally.

### *Pancreas*

The pancreas was hypoechoic and mildly enlarged measuring 1.7 cm in thickness. There is subtle, hyperechoic fat around the pancreas. There was no evidence of nodules or cystic lesions. The visible pancreatic vein was normal.

### *Peritoneum*

Evaluation of the peritoneal cavity did not reveal any evidence of effusion, or subjective lymphadenomegaly. The omentum is of normal uniform echogenicity.

## ULTRASONOGRAPHIC FINDINGS

### *Primary Findings*

1. Hyperechoic hepatomegaly with concern for cranial liver mass. Cystic liver nodule.
2. Chronic degenerative changes to the kidney.
3. Mild pancreatitis of the right limb.

### *Secondary Findings*

1. Cystic, mucinous hyperplasia with gallbladder sludge.
2. Areas of thickened intestines could be clinically insignificant or could be consistent with chronic or acute enteropathy if there are symptoms.
3. Left-sided adrenomegaly.

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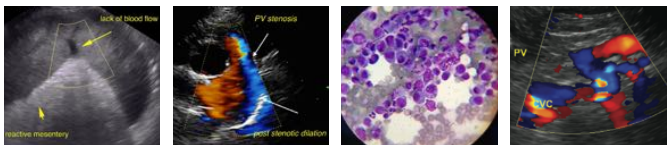

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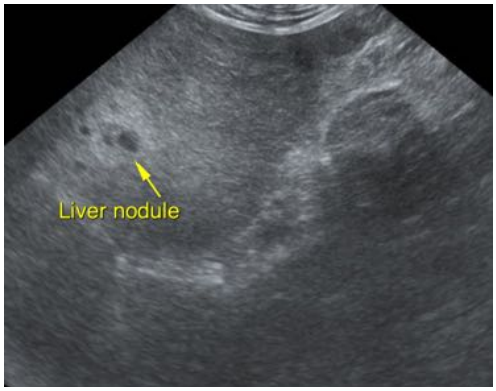
## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

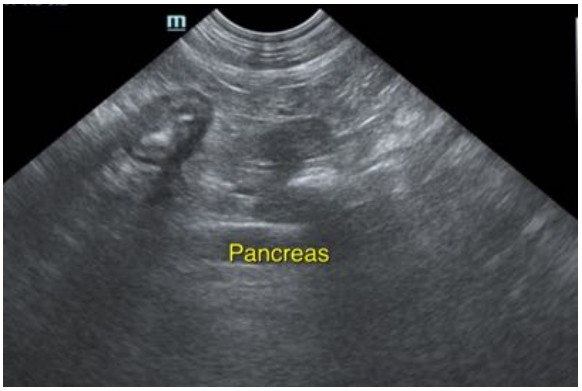
The painful area of concern is over an enlarged lobe of liver that was hypoechoic to the rest of the liver. There was inflammation adjacent to this lobe of liver though it was mild, which could be a focal area of hepatitis or that inflammation could have been extending from the mild pancreatitis that the patient has. Given focal pain and firmness in the area power doppler can be considered to evaluate for the possibility of occult liver lobe torsion. However, there are not other indciations of this. There could be hepatitis. However, given the ultrasonographic changes to the liver, pain in this area and increased liver values. Testing for Leptospirosis can be considered if the lab work changes and the symptoms were relatively acute. However, the kidneys do not suggest acute nephritis.

The kidneys are consistent with chronic kidney disease which is likely the cause of the increased renal values and the reported PU/PD.

There is concern for a cranial liver mass that is adjacent to the diaphragm. This area of concern has indistinct borders making review of this area challenging. In certain ultrasound images this area has a very abrupt change in echotexture from the rest of the liver and is mottled with a mixed echogenicity and it also appears to deform the vessels of the liver, which raises concern for a mass. This area would be difficult to sample, but it may be possible with a long spinal needle. It is not amenable to surgical excision given the location. This mass may be contributing to the increased liver values. There is also a cystic liver nodule with surrounding hyperechoic tissue.

The left adrenal gland is enlarged which could be consistent with chronic physiologic stress or adrenal hyperfunction. Testing can be considered if indicated by other symptoms. The appearance of the liver and gallbladder would be consistent with adrenal hyperfunction. Consider Ursodiol in this patient if not contraindicated.



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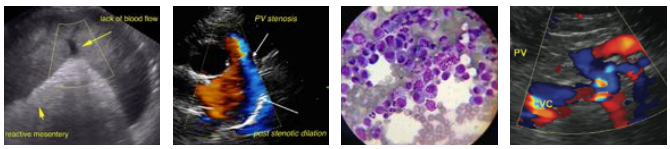

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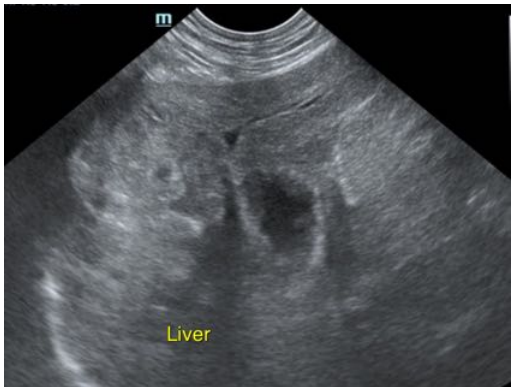


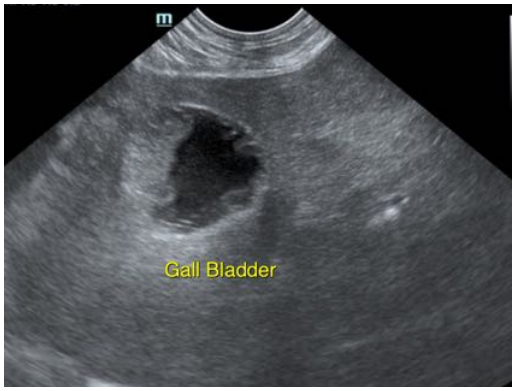


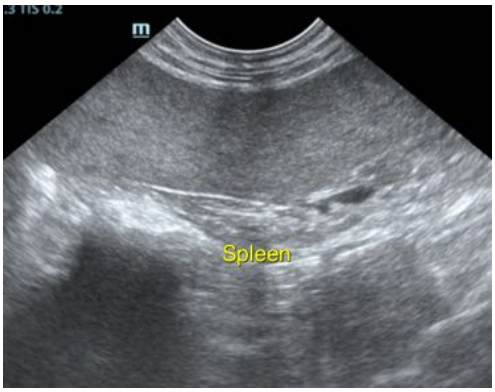


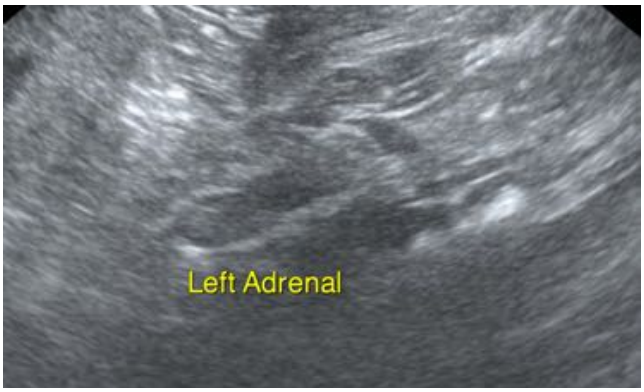


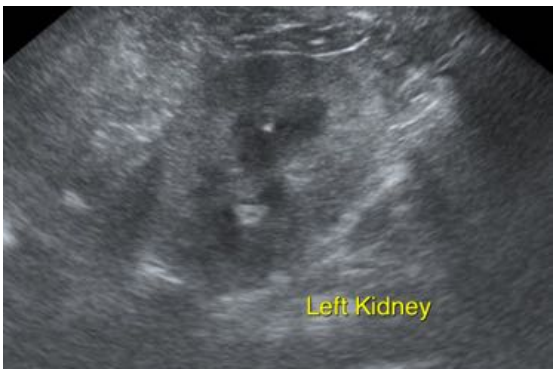


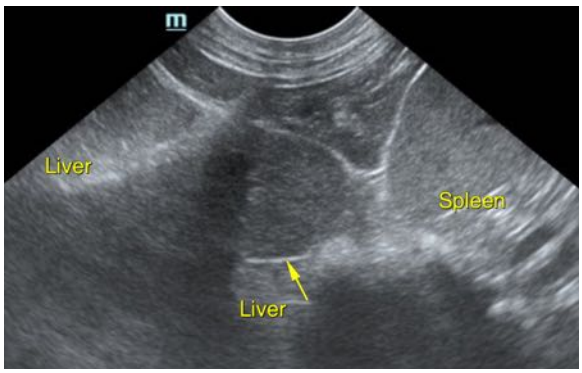


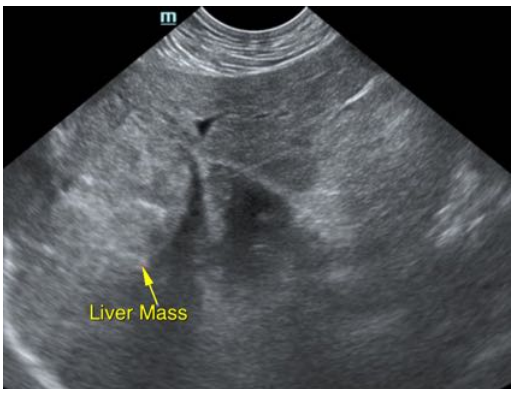

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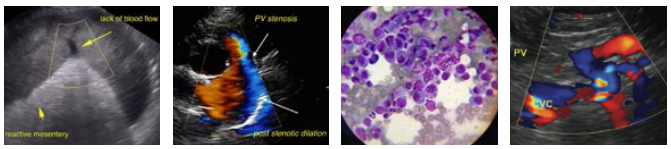


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**The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.**

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.

Jessica Midence, DVM, DACVIM (SAIM)
info@SonoPath.com