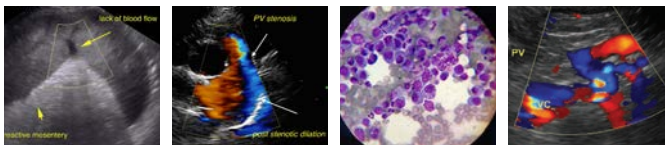
SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



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

PATIENT

Savannah Standish

SPECIES

Canine

BREED

Mixed

SEX

Spayed Female

AGE

13 Years

WEIGHT

55 Pounds

INTERPRETED BY

Kathleen Sennello DVM, MS, Diplomate ACVIM (Small Animal Internal Medicine)

IMAGING PERFORMED BY

Kelly Vazquez

HOSPITAL NAME

The Venturing Vet

REFERRING VET

Dr. Marisa Herzog

INVOICE

44142

DATE

1/11/23

PRESENTING CLINICAL SIGNS

Markedly elevated liver enzymes, PU/PD, mild urinary incontinence, proteinuria, slight decrease in appetite. Current meds: enalapril, Sam e, Pepcid, and zenequin.

Abnormal PE/Chem/CBC/UA Results: 9/21/22: ALT 436, Alk. Phos. 4,707, chol. 360, MCV 80, platelet count 553, 11/17/22: ALT 374, Alk. Phos. 5,634, GGT 18. U/A: protein 3+, culture (neg), UPC ratio 2.3,

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately distended with anechoic urine. The Bladder wall, trigone, ureteral papillae and visible urethra (to a depth of 2cm) appear normal with no evidence of wall thickening, mucosal irregularities, masses or cystic calculi.

The left kidney has a normal shape and size (5.79 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (5.75 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is normal/borderline “plump”, measuring 0.87 cm at the caudal pole. It is observed in its normal position cranial to the left renal artery. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

The right adrenal gland is normal/borderline “plump”, measuring 0.79 cm at the caudal pole. It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

Spleen

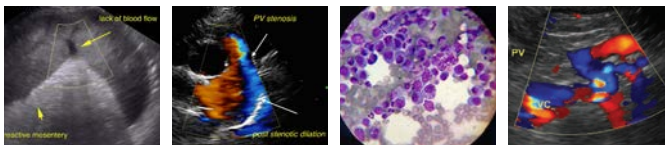
The spleen is subjectively normal in size, echotexture is homogenous, and the splenic capsule is smooth with no irregularities. The blood flow through the hilus and splenic parenchyma appears normal. No focal parenchymal abnormalities are visualized.

Liver

The liver is large and irregular with rounded margins. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary tract appear normal. There is a large isoechoic mass effect arising from the ventral aspect of the liver, measuring approximately 8.4 cm x 10.36 cm. Within this mass effect, there are additional mixed echogenic hypoechoic regions.

The gall bladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. There is a moderate amount of non-organized echogenic debris. The cystic and common bile ducts are normal/not visible.

Gastrointestinal



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The stomach contains a large amount of fluid. It measures at a normal thickness of <0.7cm with some variability due to the presence of rugal folds. The distinction of the gastric wall layers is adequate and there is no impression of reduced peristaltic activity. No masses or focal lesions were observed.

The visualized areas of duodenum, jejunum and ileum have a relatively uniform diameter with minimal fluid distension. Wall thickness is normal. Bowel loops follow a curvilinear path with distinct wall layering maintaining the typical 1:3 muscularis:mucosa layer ratio. Duodenum wall measures 0.35 cm. Jejunum wall measures 0.32 cm. Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

The ileocecal junction was visualized and exhibited normal intact wall layering and is subjectively of normal thickness. Sections of colon are visualized with formed fecal material and gas shadowing distally. There is no observed focal or generalized colon wall thickening or loss of layering.

Pancreas

The pancreas is normal and isoechoic to surrounding mesentery. There is no evidence of nodules or cystic lesions. There is no evidence of regional mesenteric inflammation or fluid.

Free Abdomen

Evaluation of the peritoneal cavity did not reveal any evidence of effusion, or subjective lymphadenomegaly. The Medial iliac nodes appear normal and there was no evidence of a caudal aortic thrombus at the bifurcation. The omentum is of normal uniform echogenicity.

Other

There is a somewhat thickened tubular structure visualized ventral to the urinary bladder. I suspect this is uterine body with a diameter of 0.60 cm and urethra running ventrally under it, measuring 0.15 cm.

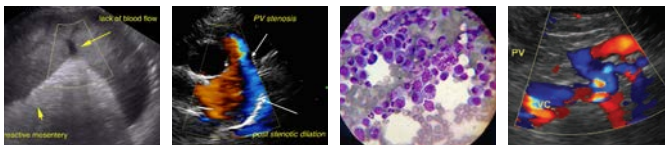
ULTRASONOGRAPHIC FINDINGS

- Large, mixed echogenic hepatic mass and large heterogeneous liver – The appearance of this lesion favors a primary hepatic mass (adenoma, carcinoma, etc.).
- Moderate gallbladder debris – The significance of the aggregated gallbladder debris is unclear. This could represent an early mucocele, cholestasis, or may be secondary to fasting but seems unlikely to be causing a current issue. Recommend continued monitoring.
- Large fluid dilated stomach – Correlate with the feeding and drinking history. If this patient had access to water recently, this could be within normal limits. If denied access to food and water, consider the possibility of a delayed gastric emptying or pyloric outflow tract obstruction (none observed).

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

There is a large, globoid, isoechoic, slightly mixed echogenic, solid mass effect arising from the ventral aspect of the liver. This is most consistent with a primary hepatic mass (adenoma, carcinoma, etc.), although a very abnormal hyperplastic liver lobe is also possible. There is a good change that this represents a benign or slow-growing lesion, and if surgically resectable, can have a good prognosis. Consider a fine needle aspirate of the liver to rule out round cell neoplasia and consider a contrast CT scan to evaluate for possible surgical removal.

Recommend three view thoracic radiographs to evaluate for possible concurrent thoracic disease/involvement.



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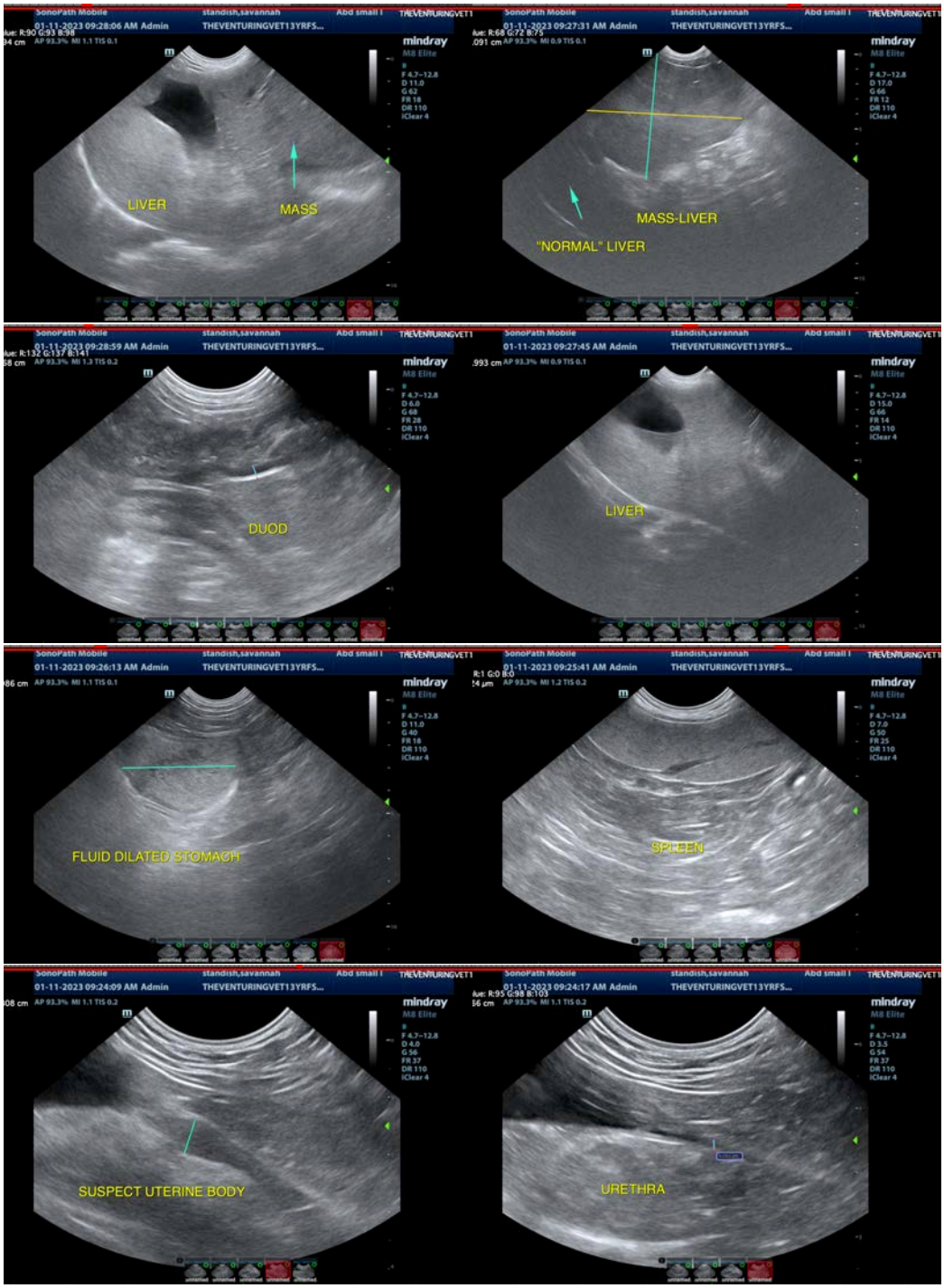
This pet could be PU/PD from the liver issues or due to concurrent Cushing's disease, as both adrenals are slightly plump. I suspect it would be very difficult to interpret adrenal function testing at this time, as the stress of another medical problem can sometimes cause false positive results.

The stomach is significantly dilated with fluid, as is the proximal small intestine. I suspect this is due to a previous large drink, but if this patient did not have access to water, consider the possibility of delayed gastric emptying, generalized ileus, etc.



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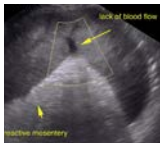
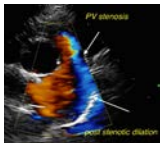
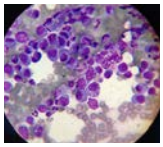
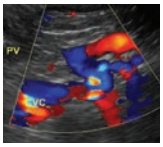

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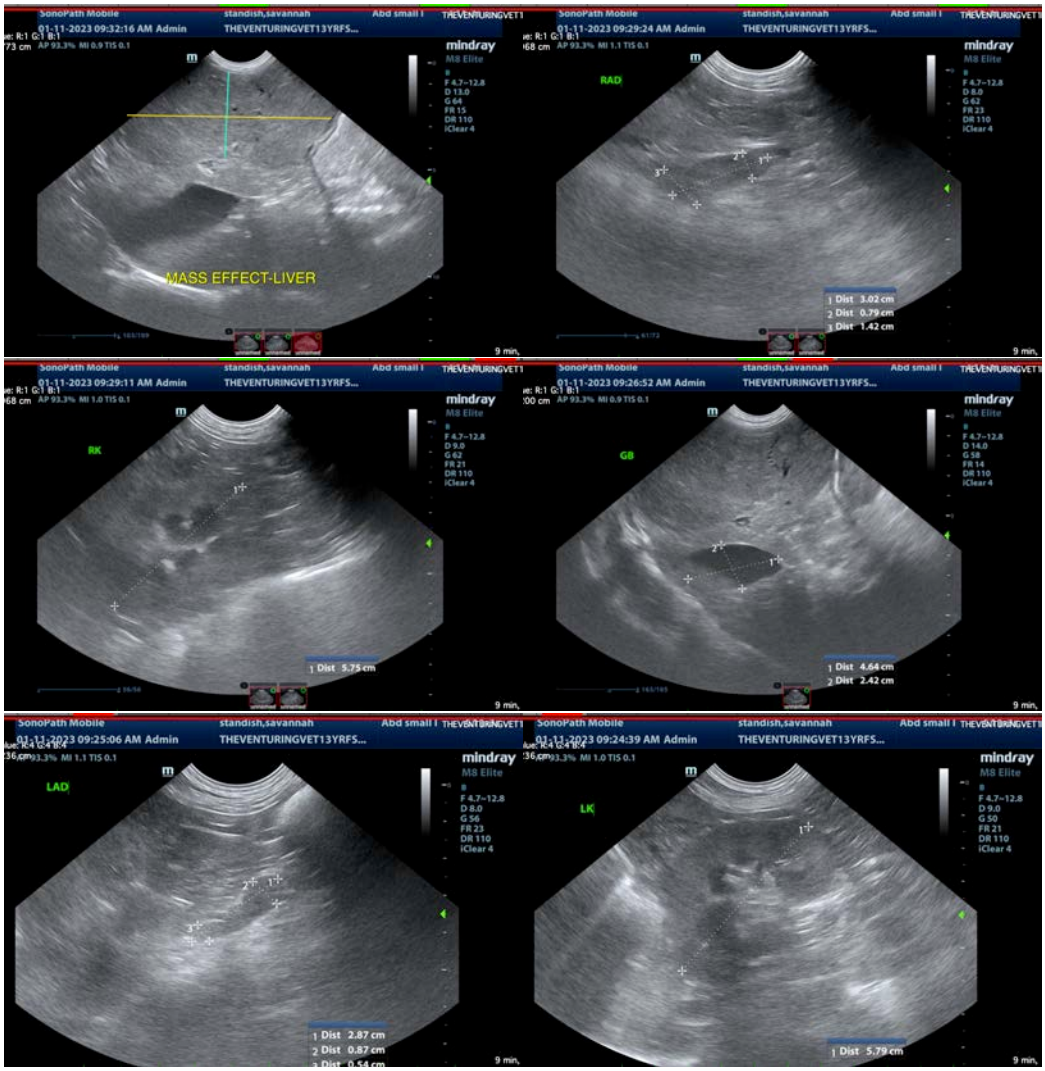

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Kathleen Sennello DVM,MS, Diplomate ACVIM (Small animal Internal Medicine)

kathleen.sennello@sonopath.com