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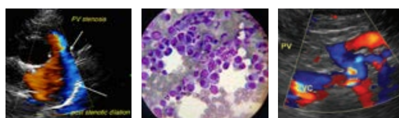

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DATE
2/25/22

PATIENT
Riley Hoerr

SPECIES
Canine

BREED
Sheltie X

SEX
Neutered Male

AGE
10/5/08

WEIGHT
41.4 Pounds

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

IMAGING PERFORMED BY
Andi Parkinson RDMS

HOSPITAL NAME
Hickory Vet Hospital

REFERRING VET
Dr. Lyle

INVOICE
35914

PRESENTING CLINICAL SIGNS

Patient presented for episode of vomiting, lethargy and found down and unable to get up last pm. Appetite decreased. Elevated liver enzymes with hepatomegaly and possible mass effect on rads.

Current Medications: 2/24 pm IV fluids, Cerenia, Ampicillin, Metro IV.
Lab Results: CBC WNL. Chem- ALKP 724, ALT 723.
Radiographs: Hepatomegaly with possible mass effect.
Date of Previous IntraPet Ultrasound: No previous.
Sedation: Not required to complete full diagnostic ultrasound.
Stat Report: DVM requested stat exam.

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, or masses. There is small, well circumscribed, hyperechoic shadowing stone in the dependent portion of the urinary bladder measuring 0.54 cm.

The prostate is normal in size (1.1 cm) and shape for this neutered male dog. The parenchyma is homogenous and the external margins are smooth. The prostatic urethra appears normal with no evidence of irregularity, invasion, mass effect or calculi.

The left kidney has a normal shape and size (6.07 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of 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 (6.5 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of 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 large in size measuring 2.13 cm at the cranial pole, 1.0 cm at the caudal pole, and 3.53 cm in length. It is observed in its normal position cranial to the left renal artery. It is somewhat irregular in appearance in that the cranial pole is enlarged and hyperechoic compared to the rest of the adrenal gland, creating the appearance of a left-sided adrenal mass.

The right adrenal gland is normal in size measuring 0.75 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 in size and irregular. 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, mixed echogenic, irregular mass effect on the left side of the liver measuring >6.01 cm x 5.43 cm. This lesion appears

inflamed and is surrounded by hyperechoic mesentery and a pocket of free fluid. Findings could be consistent with a tumor, abscess, granuloma, other.

The gall bladder lumen is significantly distended. Some areas of the wall appear mildly thickened with adherent debris. There is a large amount of primarily non-organized echogenic debris. There is no evidence of bile duct dilation. These changes can be consistent with an early gall bladder mucocele. While there is no overt inflammation or free fluid surrounding the gallbladder, there is a large amount of generalized inflammation and fluid surrounding the gallbladder, in particular the liver mass effect. Inflammation around the gallbladder itself secondarily cannot be ruled out as a possibility.

Gastrointestinal

The stomach contains minimal luminal contents. 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. The duodenum measured as normal (between 0.3-0.5cm in wall thickness) and the jejunum measured as normal (between 0.2-0.47cm.) 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

There is a small amount of free fluid pocketed in the area of the left hepatic mass. There is no lymphadenomegaly noted. The omentum is of increased echogenicity around the liver.

ULTRASONOGRAPHIC FINDINGS

- Large, mixed echogenic liver mass with surrounding inflammation and free fluid – Findings could be consistent with hemorrhage/rupture or inflammation, infection, etc.

- Large gallbladder sludge – I suspect this is an incidental finding, but proximity to the inflamed liver mass makes evaluation of the gallbladder difficult. A large amount of intraluminal debris is present, which is not normal.

- Left-sided adrenal mass – Left adrenomegaly could be consistent with neoplasia (e.g., adenoma, carcinoma, pheochromocytoma), hyperplasia, inflammation, other.

- Small dependent stone in the urinary bladder – Recommend urinalysis and culture.

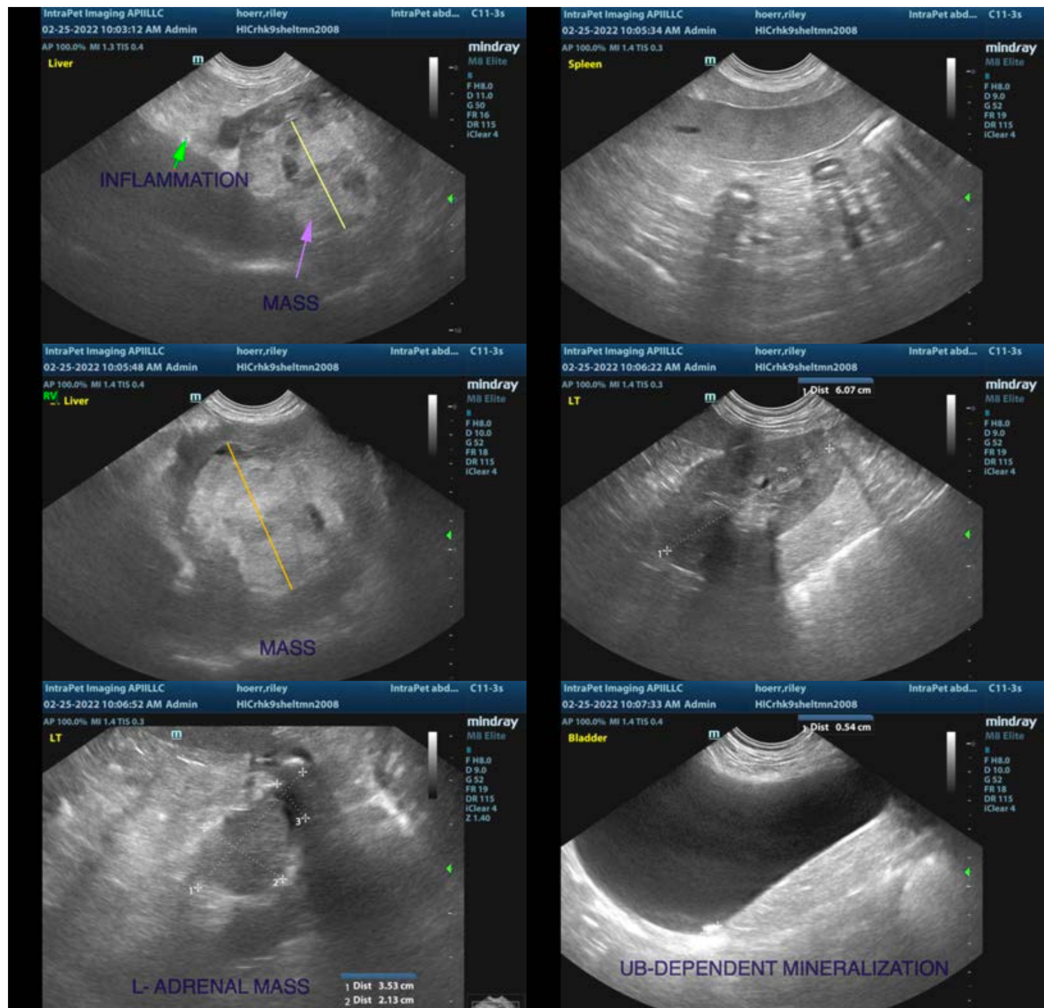
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

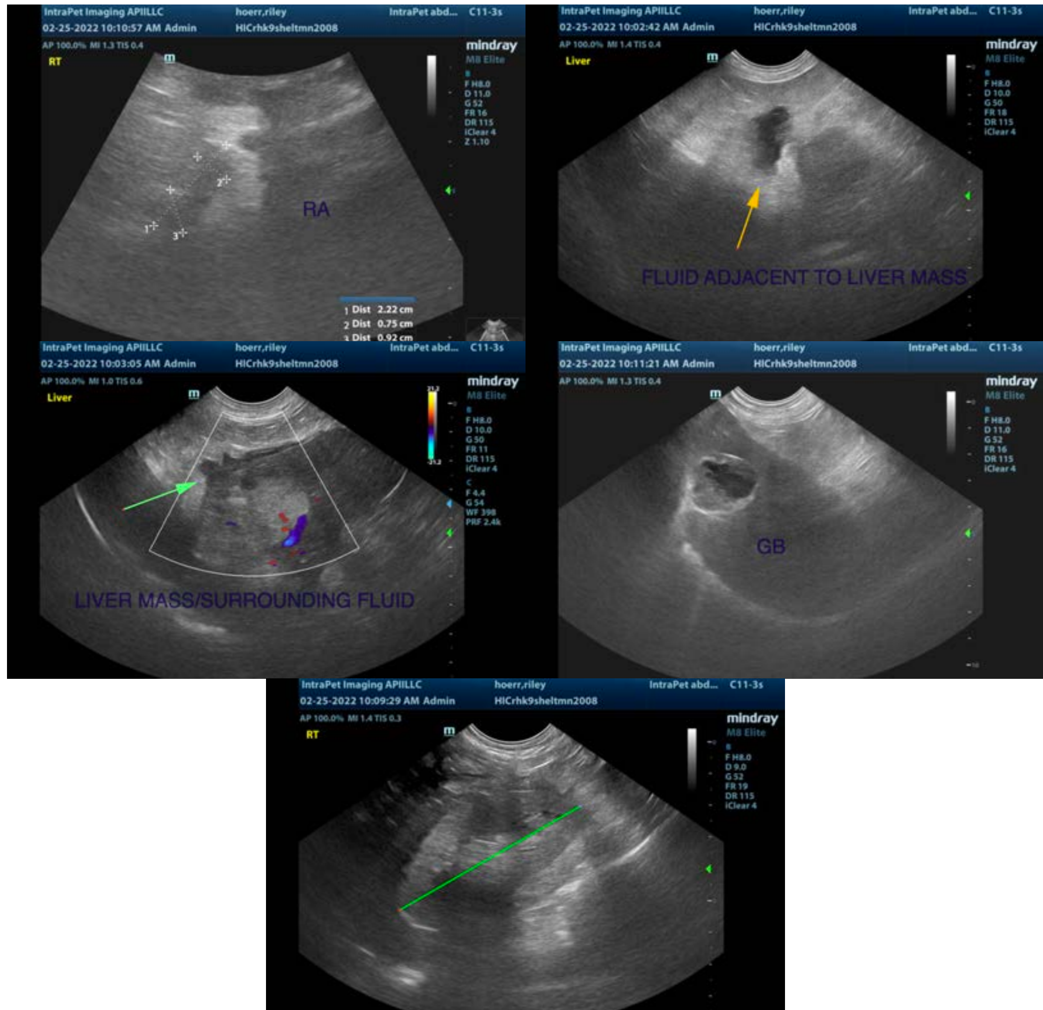
There is a large, irregular, inflamed and fluid filled mass effect in the liver. This focal peritonitis could be secondary to rupture with hemorrhage, or could be secondary to inflammation, infection, etc. Additionally, there is a large amount of debris within the gallbladder. I cannot rule this out as a secondary cause of

inflammation, but suspect it is primarily due to the liver mass. With the degree of inflammation present, surgical resection is recommended. Ideally, consider preoperative CT scan with coag testing and a referral to a veterinary surgeon. Samples should be submitted for histopathology, aerobic and anaerobic cultures +/- copper levels, etc. Recommend 3-view thoracic radiographs and evaluation of the gallbladder at the same time as surgery.

The significance of the left adrenal mass is currently unknown. I do not see evidence of clear vascular invasion, but this is still possible. These masses can be benign or malignant and can secrete hormones or be non-active. Typical options in this situation would include adrenal function testing (if clinical Cushing's is present), blood pressure evaluation, advanced imaging for surgical removal, etc. In this situation, this patient likely needs surgery, and adrenal function testing would not be useful at this time. You could consider evaluation of the adrenal gland with the CT scan, and either adrenalectomy with the removal of the liver mass or adrenalectomy at a different date.

A fine needle aspirate of the liver mass is a possibility to help give you a better idea of what the lesion is, but I suspect surgical removal would be inevitably recommended if further treatment is desired.





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.

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