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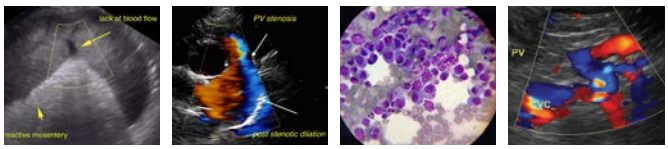


PATIENT

Angus Melendez Baez

SPECIES

Canine

BREED

Scottish Terrier

SEX

Neutered Male

AGE

10 Years

WEIGHT

28.4 Pounds

INTERPRETED BY

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

IMAGING PERFORMED BY

Dr. Ferrer

HOSPITAL NAME

Paseos Vet Center

REFERRING VET

Dr. Michelle Biello

INVOICE

38983

DATE

6/23/22

PRESENTING CLINICAL SIGNS

Presented as a referral for an urgent abdominal ultrasound. Pt has had a history of abdominal distentions for the past 4 yrs. In October 2021, pt was diagnosed with congestive heart failure and started on furosemide and enalapril. Pt was brought in to the rDVM on June 22, 2022 for a second opinion and to evaluate for a possible abdominal mass.
Abnormal PE/Chem/CBC/UA Results: PE: Abdominal distension with a fluid wave and palpable mass on the right side of abdomen. Heart murmur 4/6 systolic. BW: CBC: HCT: 31 (37-55) MCH: 17.5 (19-24) MCHC: 28 (31-39) PLT: 91 (165-500) HWTest: neg CHEM: ALP: 819 (20-150) ALT: 235 (10-118)

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 prostate is normal/borderline large in size (1.29 cm) for this neutered male dog. This is likely normal for this breed of dog. Normal shape. 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 (5.35 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 (5.5 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 normal in size measuring 0.42 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.

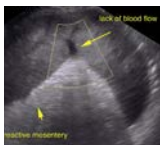
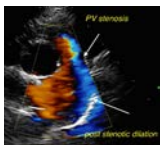
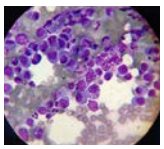
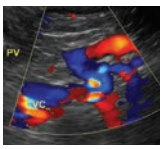
The right adrenal gland is normal in size measuring 0.54 cm at the caudal pole. It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

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, irregular and hyperechoic. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. The vasculature is somewhat dilated and appears congested. There is a focal mass lesion, which is hypoechoic and somewhat heterogeneous, visualized in the left lobe of the

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liver, measuring 2.82 cm x 2.82 cm. This is part of a larger abnormal area on the left caudal aspect of the liver, measuring 4.4 cm x 3.5 cm. Additionally, there is an expansile rounded area on the right caudal liver (caudate love), which could be consistent with a very large hepatic mass. It is difficult to see margins on this lesion, but it measures >6.14 cm x 9.59 cm.

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

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. Duodenum wall measured 0.37 cm. Jejunum wall measured 0.39 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

There is a large amount of anechoic free fluid. There are prominent mesenteric lymph nodes clustered, measuring 0.85, 1.0, and 0.75 cm. Additionally, the left medial iliac is prominent at 0.91 cm. The omentum is generally of normal echogenicity.

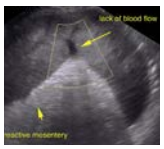
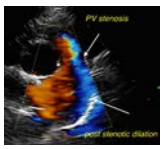
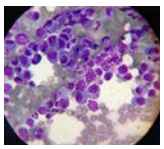
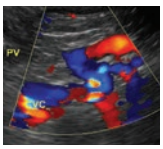
Other

A brief view of the heart was submitted. A small volume of pericardial effusion is visualized. Chamber size was not evaluated. Recommend cardiac ultrasound.

ULTRASONOGRAPHIC FINDINGS

- Large, hyperechoic, heterogeneous, congested liver with rounded margins, a discrete left-sided mass lesion, and a possible large right-sided mass lesion – The diffuse hepatic changes are non-specific and could be consistent with vacuolar hepatopathy, nodular hyperplasia, inflammatory/immune-mediated disease, fibrosis, extramedullary hematopoiesis, toxic hepatopathy (e.g., copper), infiltrative neoplasia (less likely) or other hepatopathy. The liver is very large and abnormal. There are some discrete masses visualized within it, and the right caudal lobe is expansile, displacing abdominal structures, and could be consistent with a mass effect. Additionally, the vessels are prominent, and it appears somewhat congested.

- Large gallbladder debris – There is a large amount of debris visualized within the gallbladder with mild gallbladder wall thickening. There is fluid surrounding the gallbladder, which I suspect

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is secondary to the generalized ascites, but close monitoring of the gallbladder is warranted in correlation with bloodwork findings. Recommend starting Ursodiol therapy.

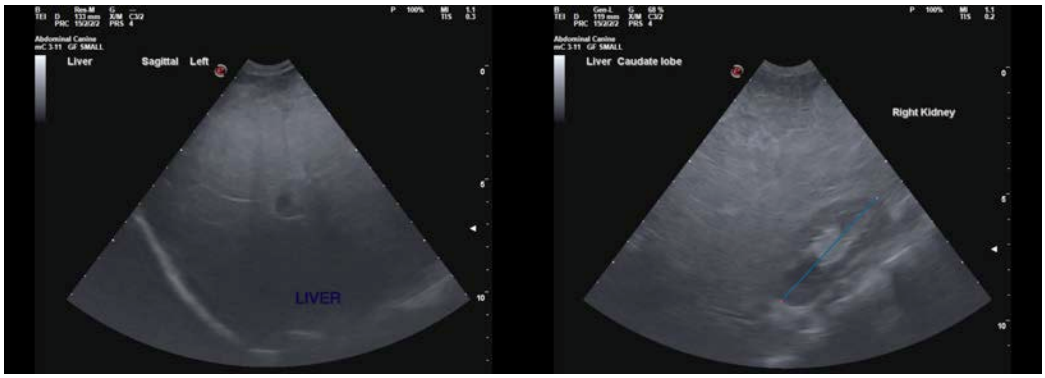
- Moderate mesenteric lymphadenopathy – The prominent abdominal lymph nodes are most consistent with reactive lymphadenitis or lymphoid hyperplasia. Neoplastic infiltration is considered less likely.
- Large volume free abdominal fluid – recommend fluid analysis and cytology.
- Small volume pericardial effusion – recommend cardiac ultrasound.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The liver is severely enlarged and irregular with some focal mass lesions and dilated vasculature. I'm concerned that it is congested, and this could be supported by the small amount of pericardial effusion visualized. Recommend a cardiac ultrasound to further evaluate for chamber size, a heart base mass, primary heart disease, etc., but there is also evidence of primary hepatic disease with focal mass lesions. The right side of the liver is particularly enlarged, and possibly a large mass lesion. A contrast CT scan would be helpful in getting a more global view of the liver and trying to determine if surgical options exist.

The gallbladder has a large amount of debris within it. It is difficult to assess for inflammation, as there is already fluid surrounding the gallbladder due to the ascites present. Consider starting Urosdiol and continue monitoring the gallbladder. There is a moderate mesenteric lymphadenopathy present These lymph nodes are isoechoic and fairly normal in shape. A fine needle aspirate of a mesenteric lymph node could be considered, and fluid analysis and cytology are warranted to determine if this is a modified transudate, or if there are any neoplastic cells, etc.

Consider three view thoracic radiographs to rule out concurrent thoracic disease/involvement.



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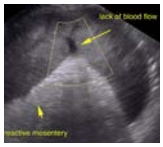
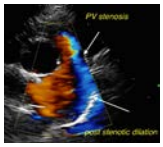
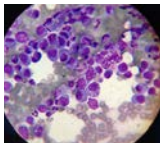
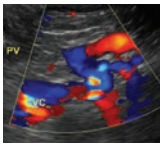

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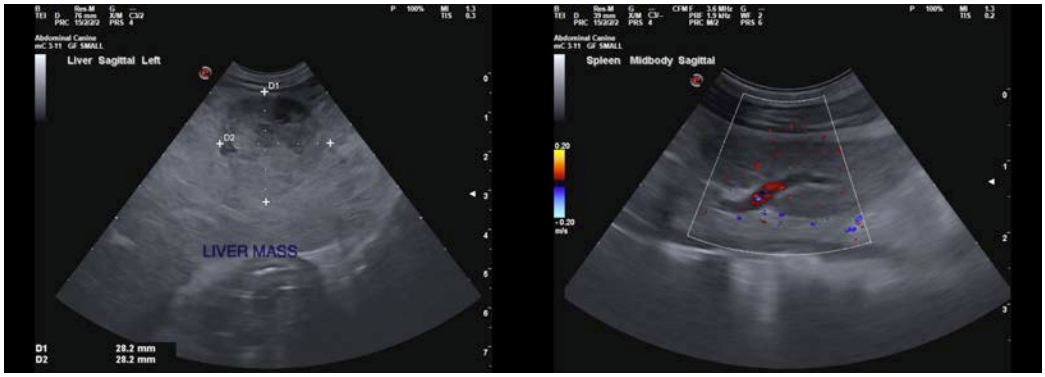

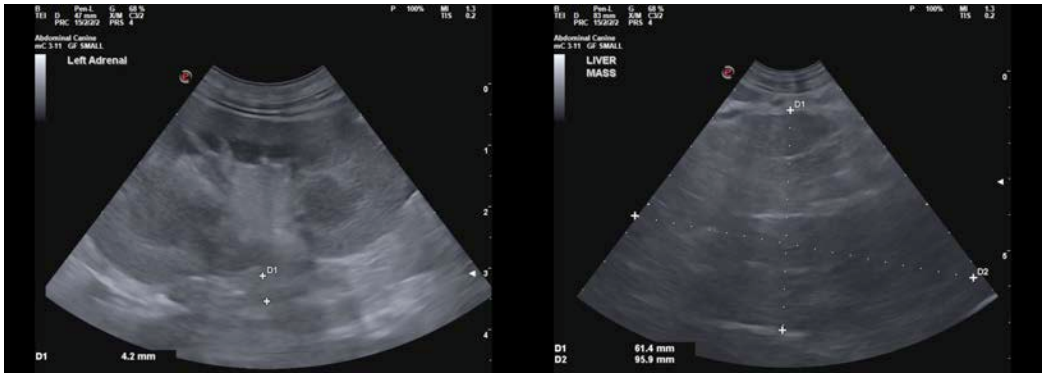

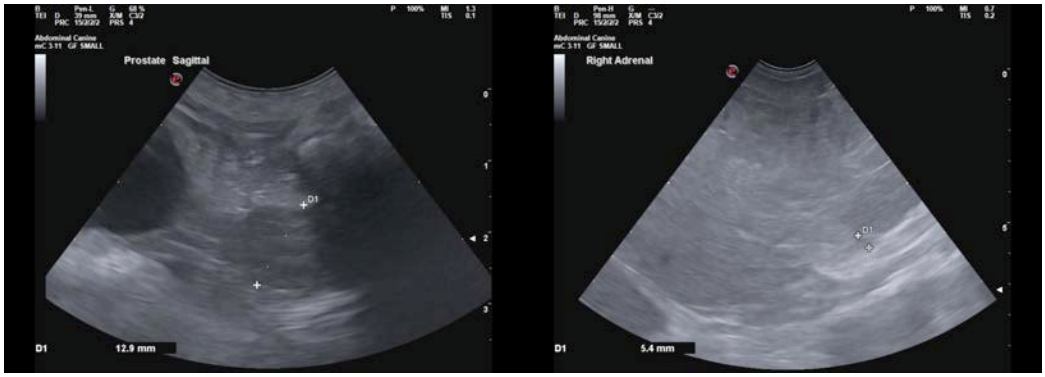

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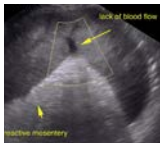
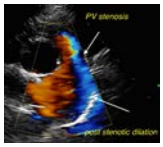
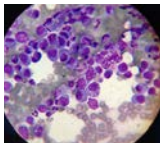
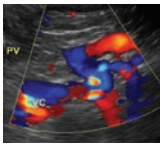

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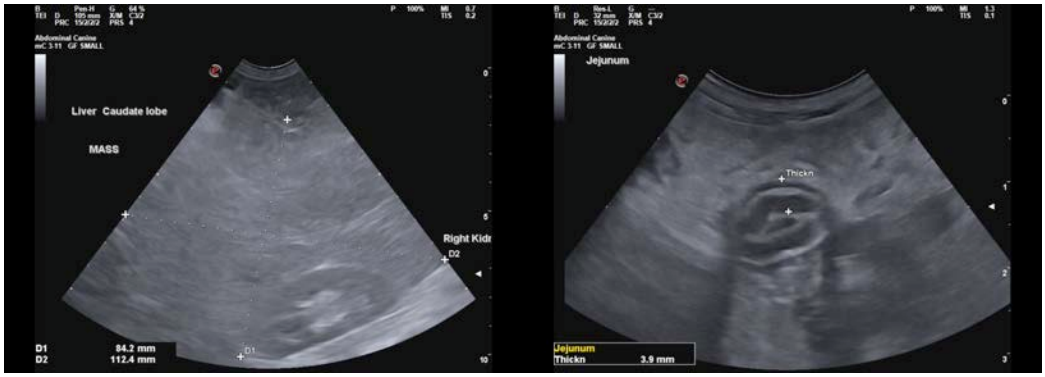

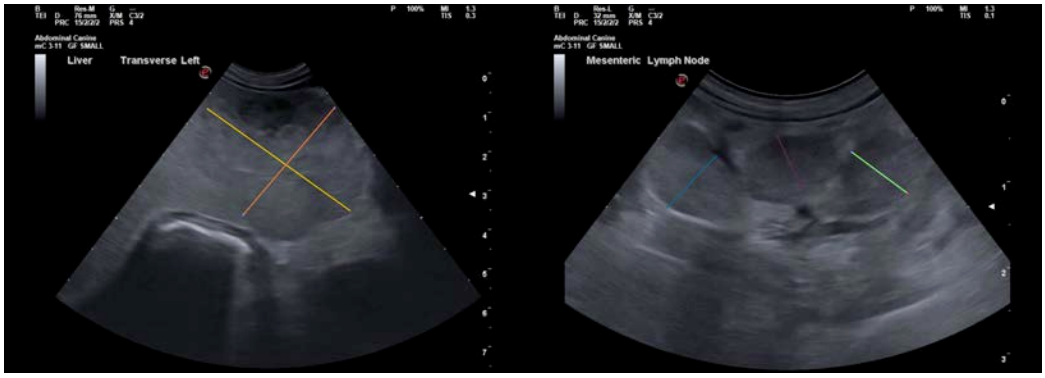

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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