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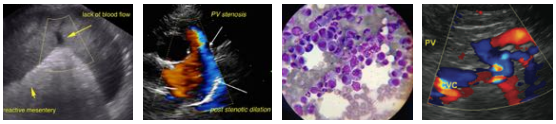


ANIMAL SOUNDS NW
MOBILE VETERINARY ULTRASOUND
IMAGING PERFORMED BY
AnimalSoundsNW.com 541-357-9423

PATIENT

Toby Miller

SPECIES

Neutered Male

BREED

Shih Tzu

SEX

Neutered Male

AGE

12yrs

WEIGHT

7lbs

INTERPRETED BY

Beth Johnson, DVM DACVIM

IMAGING PERFORMED BY

Sara Hansen

HOSPITAL NAME

The ArkVeterinary Clinic

REFERRING VET

Dr. Mercer

INVOICE

10270

DATE

6/20/2023

PRESENTING CLINICAL SIGNS

Several month history of worsening hyporexia previously attributed to musculoskeletal and/or dental pain by owner/previous DVMs. Large cranial abdominal mass seen on AFAST today.

Abnormal PE/Chem/CBC/UA Results: recent blood panel 6/9/23 unremarkable apart from hypoglycemia (50mg/dL) possibly attributed to lab processing delay. Spot BG today 89mg/dL. Otherwise, NSF.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately distended with anechoic contents. No masses, inflammatory changes, echogenic sediment or cystoliths are observed. The urinary bladder, trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.

The area of the prostate is examined without evident prostatic pathology.

The right kidney is normal in size (4.07 cm), shape, and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex-to-medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia, mineral, or infarcts observed.

The left kidney is normal in size (4.07 cm), shape, and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex-to-medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia, mineral, or infarcts observed.

Adrenal Glands

The right adrenal gland is normal in size (2.02 cm long, cranial 0.90 cm, caudal 0.90 cm), shape, and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

The left adrenal gland is normal in size (0.6 cm cranial, 0.73 cm caudal), shape, and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

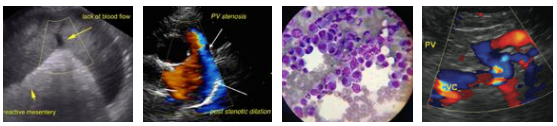
Spleen

The spleen is subjectively normal in size with a normal smooth capsular contour. Parenchyma is appropriately finely textured and homogenous with normal echogenicity relative to surrounding tissue (hyperechoic to liver). No focal nodules or masses are observed. Splenic vasculature appears normal.

Liver

The liver is subjectively normal in size with normal smooth curvilinear peripheral contour. Parenchyma is appropriately hypoechoic to the spleen in echogenicity and appropriately mildly coarse and homogenous in echotexture. No focal lesions are observed. Visible vasculature and biliary tree appear normal without distension or congestion.

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



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Gastrointestinal

The stomach wall is normal in thickness (canine < 0.5 cm and feline < 0.4 cm) and layering. The lumen of the stomach is empty with no evidence of obstruction or foreign material. Pyloric outflow tract appears patent.

The visible small intestines are normal in wall thickness and layering (canine duodenum < 0.5 cm and feline duodenum < 0.4 cm; other < 0.3 cm). Small intestinal motility appears adequate (1-3 contractions per min). The lumen of the small intestine is empty with no evidence of obstruction or foreign material.

The visible colon is normal in wall thickness (< 0.2 cm) and layering. Contents are consistent with normal formed feces and gas.

Pancreas

See free abdomen.

Free Abdomen

There is no evidence of free peritoneal effusion noted in these images.

There is no apparent lymphadenopathy noted in these images.

In the mid-cranial abdomen, there is a 3.5 cm x 5 cm irregular heterogeneous primarily hypoechoic mass, that appears to be associated with the pancreas. Having said that definitive tissue origin cannot be determined/guaranteed. Additionally, in some views, there appears to potentially be a 1.18 cm long x 0.65 cm thick echogenic density within the caudal vena cava that may represent a thrombus. However, this suspicious area is not repeatable in all views and Doppler isn't available in the suspicious images.

ULTRASONOGRAPHIC FINDINGS

- A mid-cranial abdominal mass that appears to involve/originate from the pancreas, with infiltrative neoplasia being a top differential. Given this patient reported hypoglycemia and insulinoma could be considered versus other, benign inflammatory disease is possible but considered less likely. Other organ origin including liver, spleen, lymph node, or even less likely adrenal gland can't be definitively ruled out.

- There are some views concerning for a caval thrombus however it is difficult to confirm a thrombus in all the views, so that finding is questionable.

SECONDARY FINDINGS

- **Mild Gallbladder debris** - Cholecystic debris is of unknown clinical significance. It can be seen with biliary stasis from fasting or illness. Cholecystic debris is not necessarily related to hepatobiliary disease. Echogenic bile is most commonly an incidental finding in dogs and should be interpreted in combination with clinical signs such as nausea, inappetence, cranial abdominal discomfort, and/or laboratory changes such as increased ALP and/or increased Tbili.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

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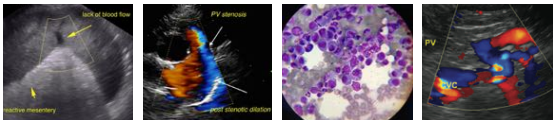

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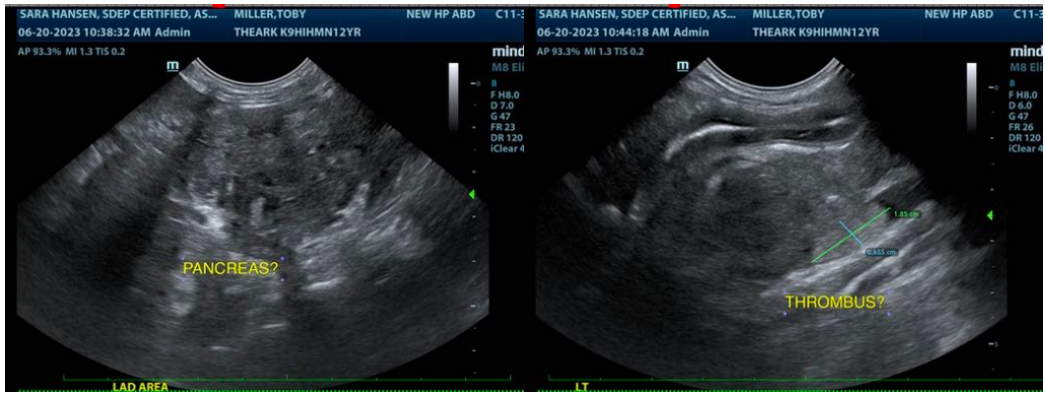
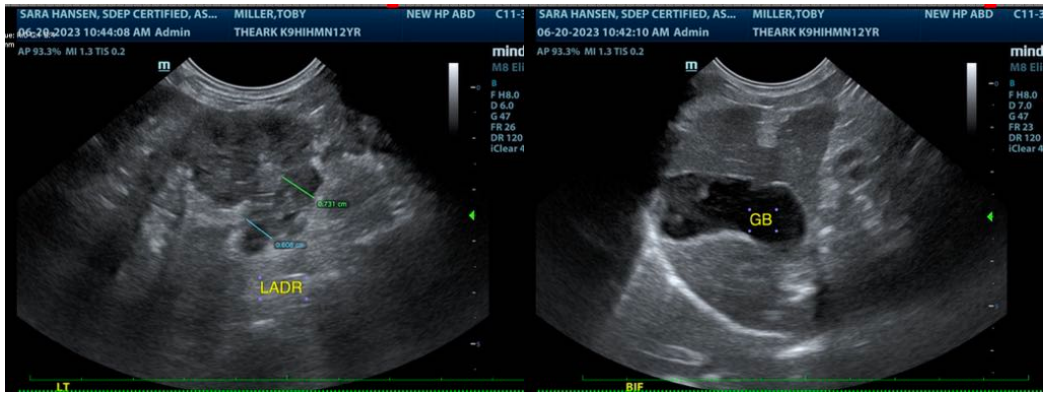
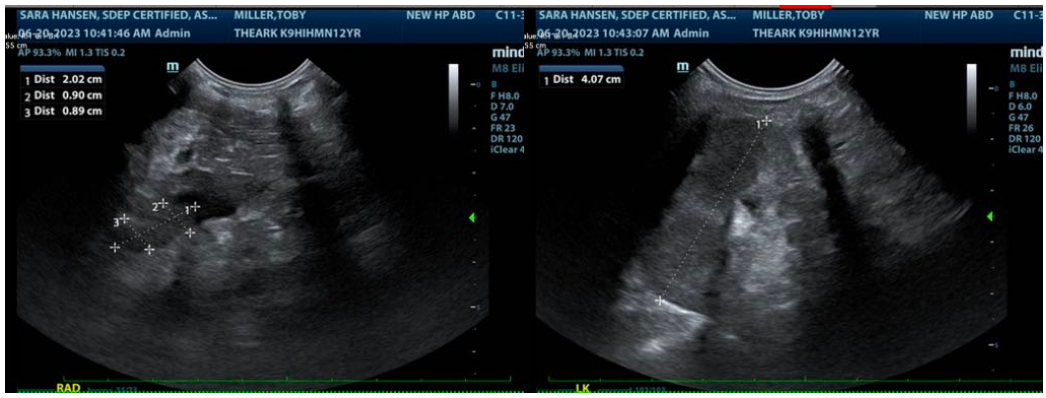
Three-view thoracic radiographs are recommended for further assessment of cardio-pulmonary status as well as to further evaluate for any evidence of metastatic disease, if not recently evaluated. A paired insulin to glucose ratio is recommended with the sample drawn at a time when the blood glucose is <50 to allow accurate interpretation of the insulin level. Pending results, a fine needle aspirate of the cranial abdominal mass could be considered or given the lack of ability to definitively determine tissue origin an abdominal contrast CT scan could be considered prior to tissue sampling. If advanced imagining is not elected or is not possible alternatively an exploratory laparotomy could be planned for excisional biopsy/mass removal if possible.







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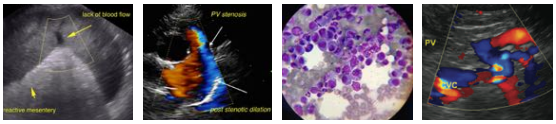

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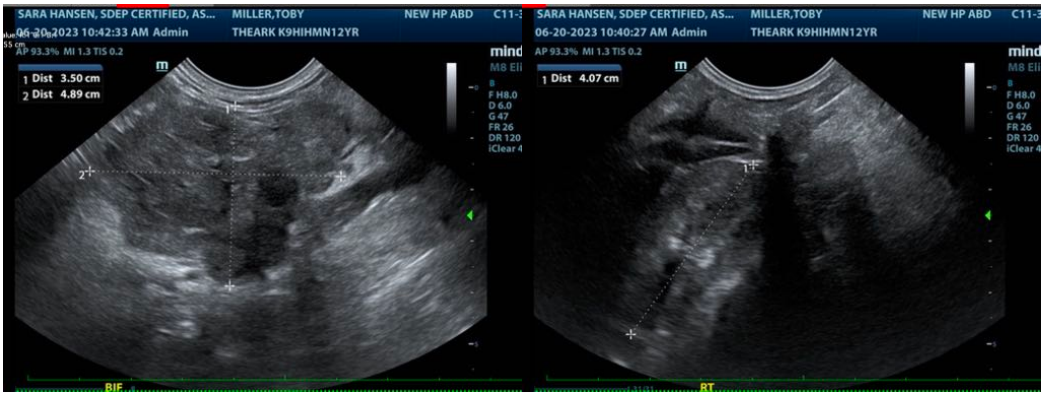

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Beth Johnson, DVM, DACVIM
info@sonopath.com