SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™

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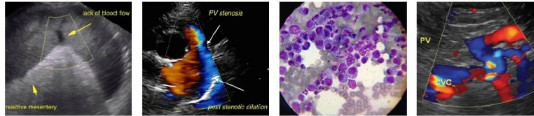


P A W S
Portable Animal Western Sonography, Inc.

IMAGING PERFORMED BY

pawsonography@gmail.com 530-786-8340

**PATIENT**

Molly Bowen

**SPECIES**

Canine

**BREED**

Golden Retriever

**SEX**

Spayed Female

**AGE**

9.3 Years

**WEIGHT**

73.2 Pounds

**INTERPRETED BY**

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

**IMAGING BY**

Loetitia Saint-Jacques, LVT

**HOSPITAL NAME**

Truckee Meadows VH

**REFERRING VET**

Dr. Rachel Kuester

**INVOICE**

36745

**DATE**

4/5/22

## PRESENTING CLINICAL SIGNS

Medication Strength Dosing Instructions Last given Mycophenolate 250 mg 1 C PO BID (started 3/29) Prednisone 20 mg 1.5 T PO BID (started 3/22) Doxycyline 100 mg 3 C PO BID (started 3/22) Procedure: AUS, 3 view chest rads, recheck CBC and blood film Current Problem List: Thrombocytopenia DDx loss vs lack of production vs destruction Emerging anemia DDx loss vs lack of production vs destruction Low total T4 - DDx HypoT4 vs euthyroid Presenting Complaint: Presented on 3/22/22 for annual examination and vaccinations. Px had slightly pale gums, no FF on AFAST, no reported concerns from owner other than >1 year history of slowing down and not wanting to go on walks. No acute concerns. Annual senior screening labs submitted. Px found to be thrombocytopenic with a PLT count of 27K. Recommended tickborne testing and diagnostics (AUS, chest rads, path review of CBC, TSH and FT4) O declined and elected to start medical management (started on Doxy and Pred). Rechecked CBC 3 days later and platelets have not improved at all, hematocrit now slightly decreased as well. Added in Mycophenolate and encouraged O to reconsider diagnostics for further evaluation. Pertinent Diagnostic Results: 3/22/22 Total Body Function Glob 3.9 CHOL 612 AMYL 282 CPK 48 PLTs 26K T4 <0.5 SDMA 14.1 3/29/22 CBC WBC 19.34 NEUs 16.49 HCT 35% HGB 10.9 RBC 5.01 PLT 27 Blood film / manual PLT Ct - ~30K

## 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 (7.3 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 (7.35 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.

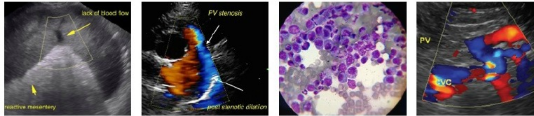
### *Adrenal Glands*

The region of left adrenal (Cranial to left renal artery) is unremarkable but the adrenal is not distinctly visualized. No evidence of a mass effect.

The region of the right adrenal (between right cranial kidney and vena cava) is unremarkable, but the adrenal is not distinctly visualized. 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 adequate. There is questionable soft tissue density within the lumen of the splenic vein. There is a small hypoechoic nodule visualized measuring 0.32 cm in the parenchyma.





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### *Liver*

The liver is large in size with smooth peripheral margins. The parenchyma is hyperechoic and homogenous in echotexture. The visible portions of the vasculature and biliary tract appear normal. There are two small hypoechoic nodules visualized, one measuring 0.65 cm in diameter, the other measuring 1.12 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 0.55 cm. Jejunum wall measured 0.35 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*

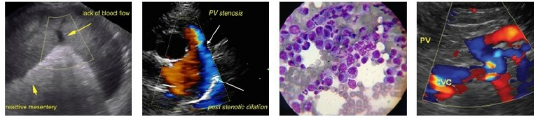
Evaluation of the peritoneal cavity did not reveal any evidence of effusion. There are occasional prominent mesenteric lymph nodes with one visualized measuring 0.93 cm in diameter. Additionally, the pancreaticoduodenal lymph node is prominent at 0.97 cm x 1.59 cm.

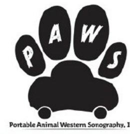
## ULTRASONOGRAPHIC FINDINGS

- Large, hyperechoic liver with two small hypoechoic nodules – The diffuse hepatic changes are non-specific and can be seen with vacuolar hepatopathy, reactive change, nodular hyperplasia or, less likely, inflammatory/immune-mediated disease, infiltrative neoplasia, or other hepatopathy. The two hypoechoic nodules appear small and subjectively are benign in appearance. Recommend close continued monitoring, as a fine needle aspirate is not safe at this time.

- Moderate gallbladder debris – The significance of the aggregated gallbladder sludge is unclear. This could represent an early mucocele, cholestasis, or may be secondary to fasting.

- Questionable soft tissue density within the splenic vein at the hilus – This coud be







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consistent with artifact or early thrombus formation. Blood flow to the spleen appears normal. Recommend continued monitoring (recheck ultrasound with color flow in approximately one week).

- Prominent mesenteric lymph nodes – The prominent abdominal lymph nodes are most consistent with reactive lymphadenitis or lymphoid hyperplasia. Neoplastic infiltration is considered less likely.

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The changes observed in the liver could be consistent with steroid hepatopathy. If there is concern for underlying round cell neoplasia, a fine needle aspirate could be considered, but is not safe at this time with such a low platelet count. The gallbladder has a moderate amount of sludge, but this is likely an incidental finding at this time. Recommend continued monitoring.

There is questionable material visualized within the splenic vein at the level of the hilus. Under normal circumstances, a platelet inhibitor could be started, but with a low platelet cound I do not feel this would be safe. Recommend continued monitoring and recheck ultrasound with color flow in approximately one week. Additionally, consider any causes for possible hypercoagulability. Recommend urine protein/creatinine ratio.

An obvious cause for the thrombocytopenia is not visualized, and there is no evidence of active bleeding. There are some prominent mesenteric lymph nodes visualized. It is possible that prior to Prednisone therapy, these were larger and more consistent with a neoplastic process, etc.

Consider these recommendations:

- If not already done, recommend 3-view thoracic and abdominal radiographs.
- Recommend vector borne disease testing. I like the canine comprehensive panel through NC State's vector borne disease lab.
- Recommend CBC with pathologist review to look for any intercellular parasites, neoplastic cells, etc.
- If this is a non-regenerative anemia, consider bone marrow aspirate.
- Recommend recheck ultrasound of the splenic hilus in approximately 7 days with color flow to evaluate the area of the hilus.
- Carefully examine for peripheral lymphadenopathy, and consider a fine needle aspirate if one is identified. It is unclear if this is a case of immune mediated thrombocytopenia, as diagnostics were declined prior to therapy, making evaluation at this time more challenging.

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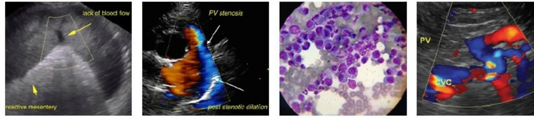

PAWS

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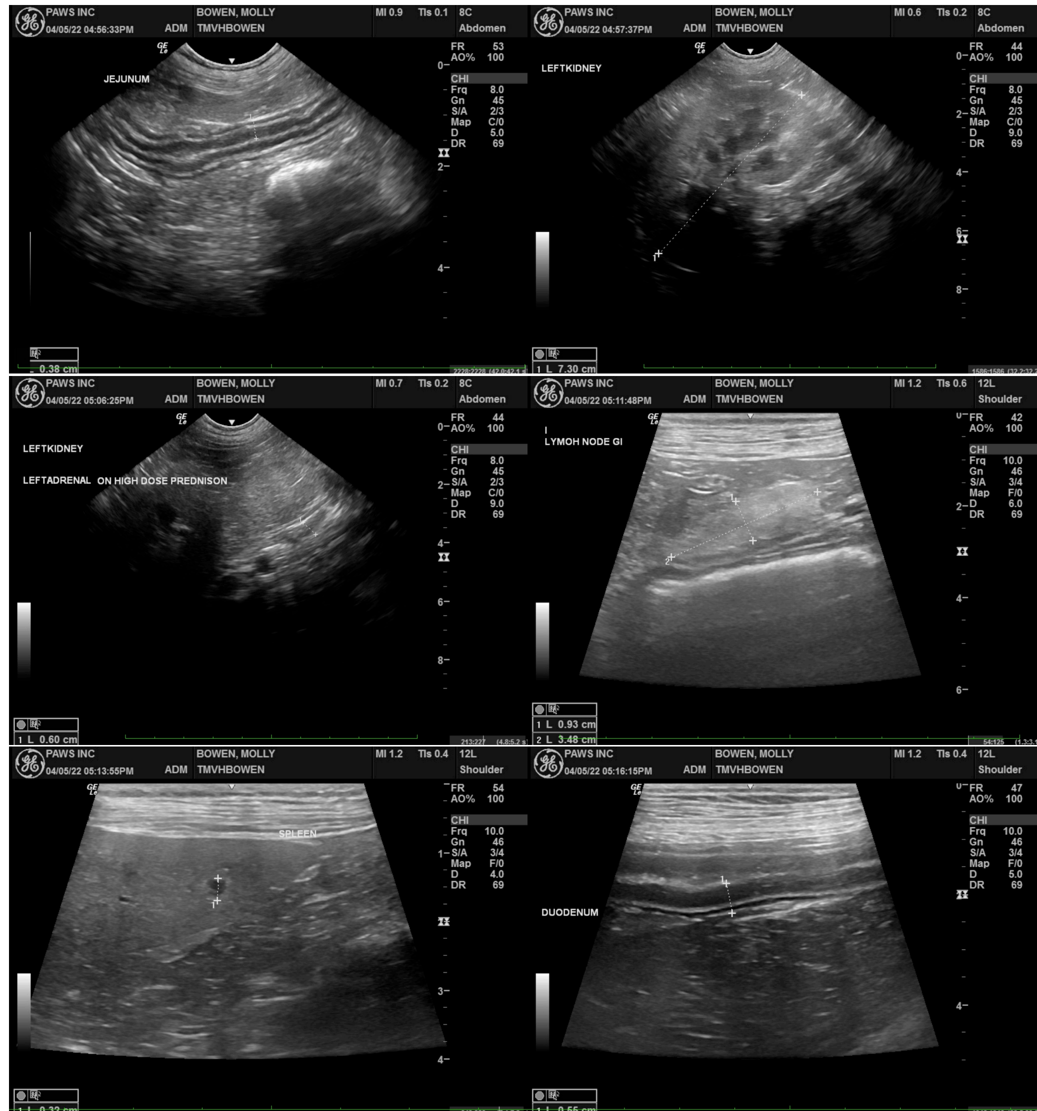

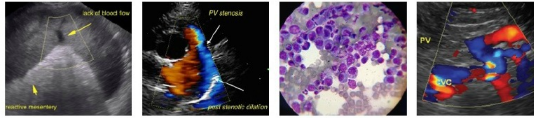

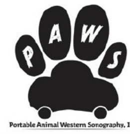




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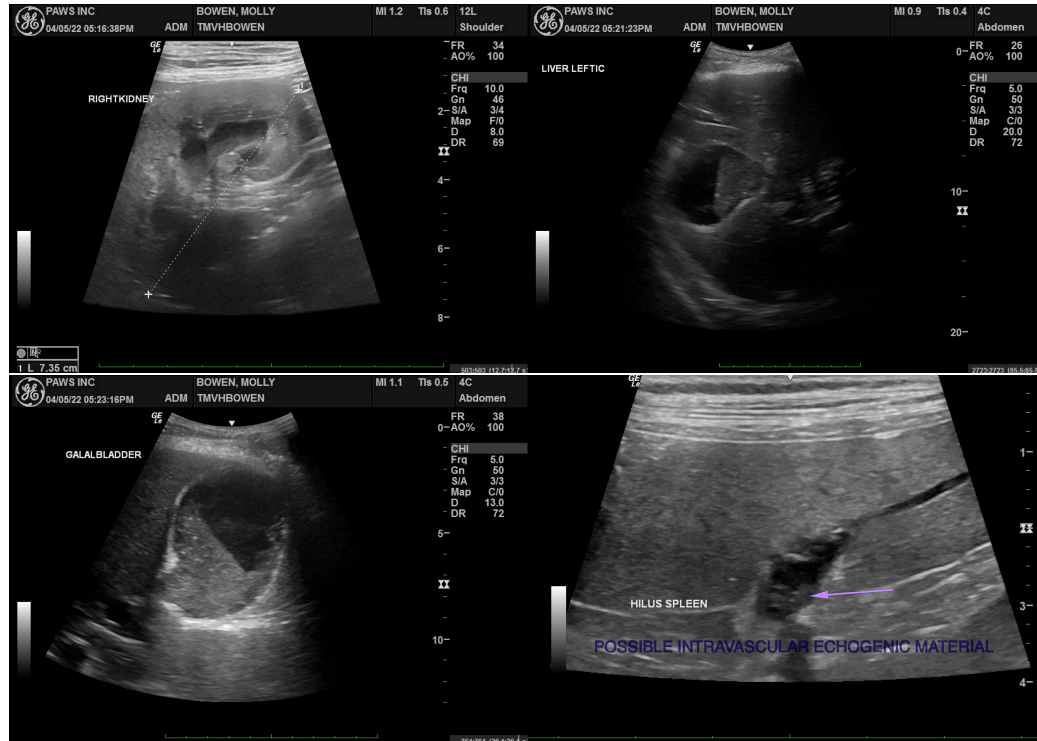


**The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.**

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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