**PATIENT**

Turtle Klumb

**SPECIES**

Canine

**BREED**

Beagle X

**SEX**

Neutered Male

**AGE**

12 Years 9 Months

**WEIGHT**

17.9 kg

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

Tom McNeill

**HOSPITAL NAME**

SVS Imaging CT

**REFERRING VET**

WVRC - Dr. Schulz

**INVOICE**

36434

**DATE**

3/24/22

**PRESENTING CLINICAL SIGNS**

2 month history of weight loss despite fierce appetite. One day hx straining to urinate on 2/24/22, resolved with short course of abx. Bloodwork revealed hyperglobulinemia and monoclonal gammopathy, concerning for multiple myeloma.

Abnormal PE/Chem/CBC/UA Results: Hyperglobulinemia, monoclonal gammopathy, ddx: multiple myeloma, mild neutropenia and thrombocytopenia, mild azotemia CXR and AXR from 2/11/22 - All WNL

**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 in size (0.82 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 (5.57 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 hydronephrosis. Renal vasculature is normal.

The right kidney has a normal shape and size (6.1 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 hydronephrosis. Renal vasculature is normal.

**Adrenal Glands**

The left adrenal gland is normal/borderline large in size measuring 0.86 cm at the cranial pole, 0.60 cm at the caudal pole, and 1.5 cm in length. 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.

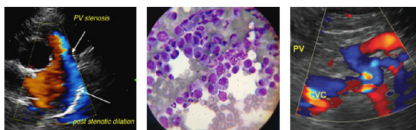
The right adrenal gland is normal in size measuring 0.63 cm at the caudal pole. It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

**Spleen**

The spleen is normal/borderline large in size. The spleen echotexture is heterogenous and slightly mottled, the splenic capsule is smooth with no irregularities. The blood flow through the hilus and splenic parenchyma appears normal. There is a small anechoic nodule measuring 0.62 cm in the head of the spleen. There is a 0.43 cm ill-defined, hypoechoic nodule in the cranial third of the spleen, and there are numerous small, hyperechoic foci along the splenic margin, most consistent with benign myelolipomas.

**Liver**

The liver is subjectively normal in size, and echogenicity with smooth peripheral 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 small 0.63 cm anechoic cyst visualized within the parenchyma.

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The gallbladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. Luminal contents are primarily anechoic. The cystic and common bile ducts are normal/not visible.

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***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.

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Beagle X

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 0.48 cm. Jejunum wall measured 0.34 cm. Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

**SEX**

Neutered Male

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.

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***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.

**WEIGHT**

17.9 kg

***Free Abdomen***

Evaluation of the peritoneal cavity did not reveal any evidence of effusion. There is one prominent mesenteric lymph node visualized measuring 0.48 cm in width. The omentum is of normal echogenicity.

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

- Prominent cranial pole of the left adrenal gland – Left adrenomegaly could be consistent with neoplasia (e.g., adenoma, carcinoma, pheochromocytoma), hyperplasia, inflammation, other. This is a very mild appearing lesion. Recommend blood pressure evaluation and continued monitoring for change.
- Mottled spleen with two hypoechoic lesions and hyperechoic lesions, most consistent with benign myelolipomas – There are several, non-cavitated, hypoechoic splenic nodules visualized. Differentials include lymphoid hyperplasia, extramedullary hematopoiesis, infiltrative neoplasia, inflammation, other. Cytology or histopathology would be necessary to get a definitive diagnosis.
- Heterogeneous liver with small anechoic cyst – 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.

**IMAGING PERFORMED BY**

Tom McNeill

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

No large focal mass effects are visualized, and there is not a significant lymphadenopathy noted within the abdomen.

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The cranial pole of the left adrenal gland is prominent. It is isoechoic to the rest of the gland and is not significantly deformed. Recommend blood pressure evaluation and continued monitoring of the left adrenal gland for any evidence of progression of this lesion.

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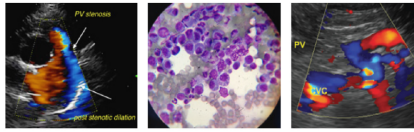
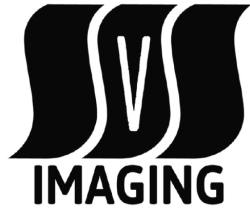
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The spleen is somewhat mottled with some small hypoechoic nodules visualized. Recommend fine needle aspirate of the spleen. Additionally, the liver is slightly heterogeneous. Given the monoclonal gammopathy described, recommend a fine needle aspirate.

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Typical recommendations for a patient with a monoclonal gammopathy would be fine needle aspirates of liver and spleen, bone marrow evaluation (this is recommended particularly due to the neutropenia and thrombocytopenia), chest radiographs, whole body radiographs looking for lytic lesions, and vector borne disease testing (particularly looking for ehrlichia). Consultation/referral to a veterinary oncologist could be considered.

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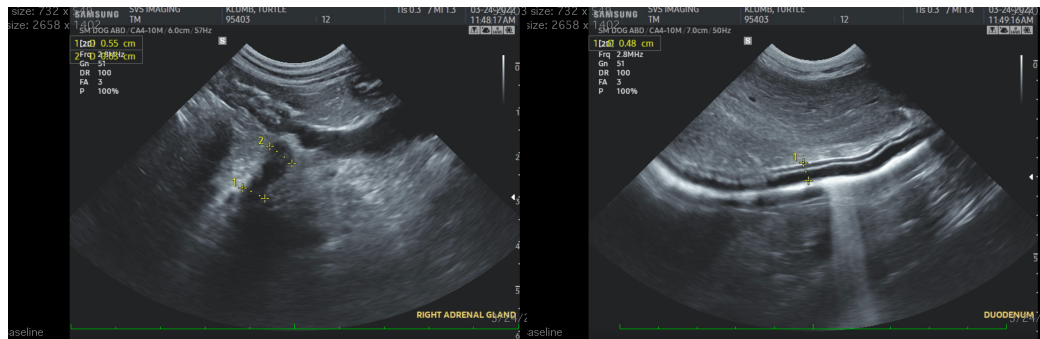
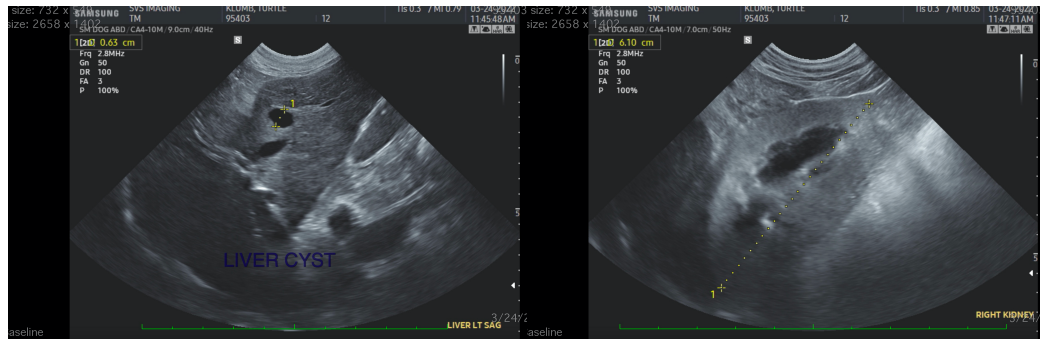
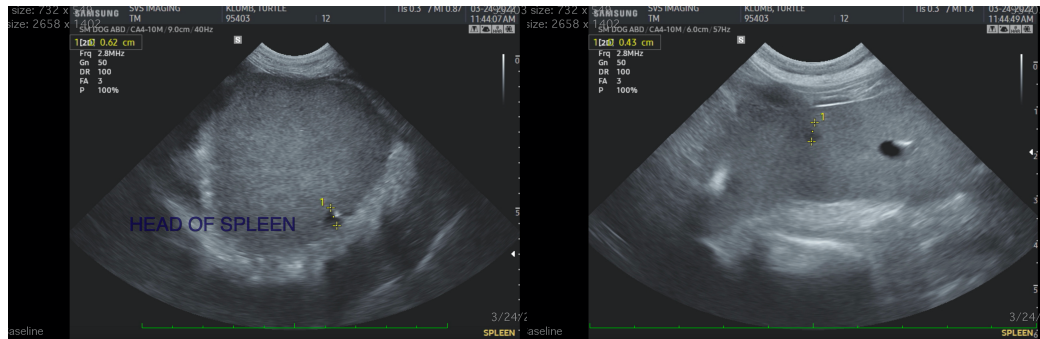
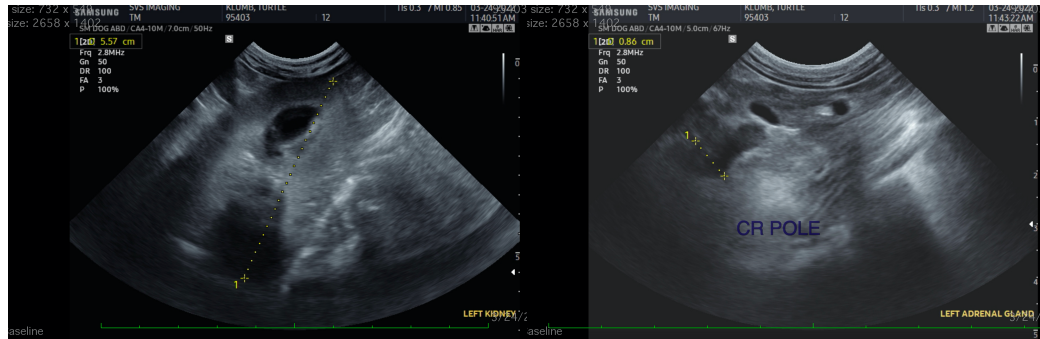
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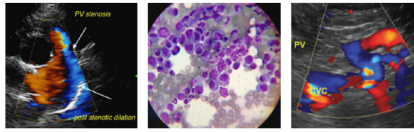
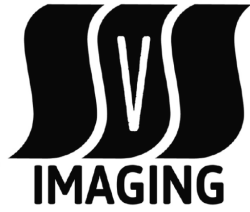
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**IMAGING PERFORMED BY**

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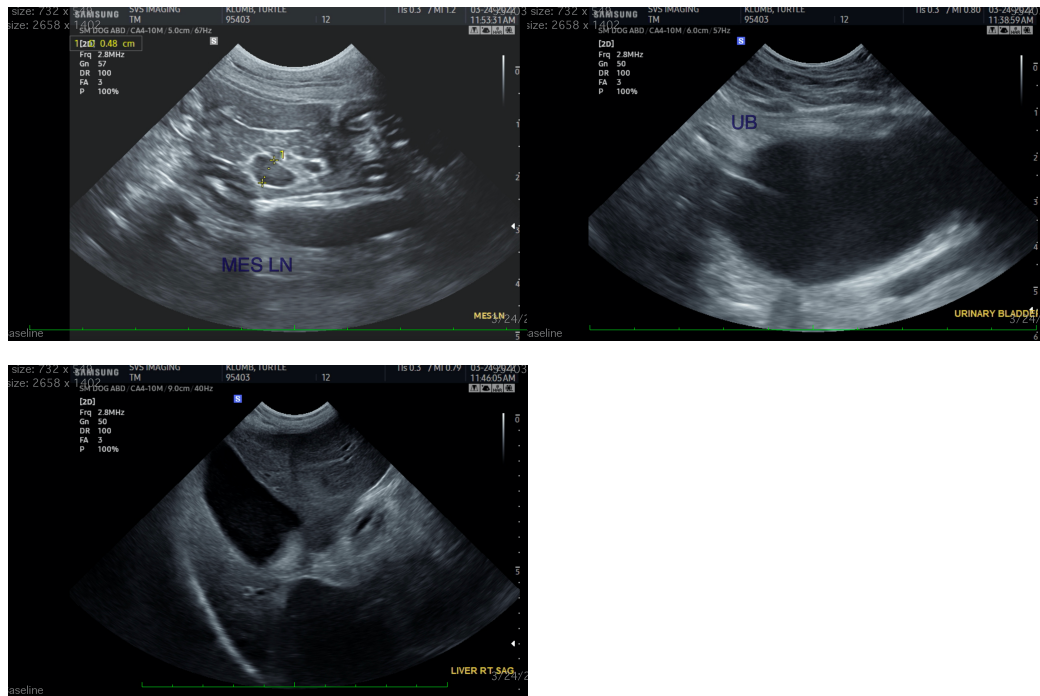
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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