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Clinical Sonography & Telecytology
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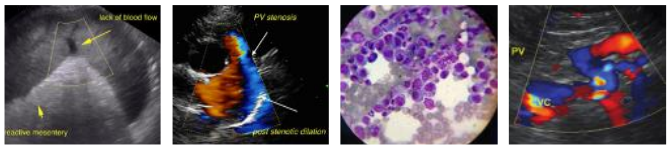


SonoPath.com
1-800-838-4268 info@sonopath.com

**PATIENT**

Henry Siegel

**SPECIES**

Canine

**BREED**

Bichon Frise

**SEX**

Neutered Male

**AGE**

2005

**WEIGHT**

11.6 Pounds

**INTERPRETED BY**

Beth Johnson, DVM DACVIM

**IMAGING PERFORMED BY**

Denise Bruno, LVT, RDMS

**HOSPITAL NAME**

Brooklyn Heights VH

**REFERRING VET**

Dr. Venezia

**INVOICE**

16802

**DATE**

8/9/22

## PRESENTING CLINICAL SIGNS

History: ADR. Elevated kidney enzymes, elevated liver enzymes. Chronic intermittent soft stools. Recent seizures. Labs + previous AUS attached.

## ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

### *Urinary System*

Urinary bladder is adequately distended with primarily anechoic contents and occasional echogenic non-shadowing debris. Apical urinary bladder wall is diffusely thick (0.6 cm thick). Mucosa is hyperechoic and irregular. No masses or cystoliths are observed. The trigone and visible pelvic urethra are normal thickness with a smooth mucosal surface.

The prostate is normal in size for a neutered dog and normal in echogenicity with a slightly heterogeneous, but unchanged from previous scanned echotexture.

The left kidney is overall normal in size and shape with smooth peripheral margination. A normal 1:3 cortex to medulla ratio is maintained. The medulla and cortices are uniform in texture with some mild increased cortical echogenicity and mild loss of corticomedullary distinction, expected in this age patient. There is no evidence of infarcts observed. Mild pyelectasia (0.43 cm)is present in the transverse view. Non-obstructive linear multifocal hyperechoic diverticular foci with acoustic shadowing are noted. Cortical cysts were noted.

The area of the right kidney is examined, and remnants of a small severely dystrophic right kidney (1.87 cm long) is observed. The kidney contains pelvic mineralization.

### *Adrenal Glands*

Adrenal glands are plump/swollen in size. Normal shape and contour are maintained without evidence of capsular invasion. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal. The left adrenal gland measured 2.0 cm long x 0.61 cm at the cranial pole and 0.71 cm at the caudal pole. The right adrenal gland measured 1.98 cm long x 0.72 cm at the cranial pole and 0.57 cm at the caudal pole.

### *Spleen*

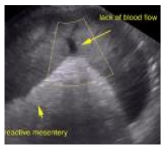
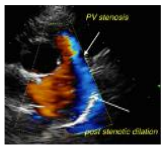
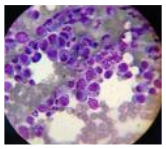
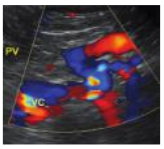
Spleen is generally normal in size and shape with a smooth capsular contour. Parenchyma is diffusely nodular in appearance characterized by small discrete hypoechoic nodules. Splenic vasculature appears normal.

### *Liver*

Liver is subjectively enlarged with mildly irregular margins. Parenchyma is mottled by multifocal discrete hypoechoic nodules of varying sizes “moth-eaten”. Visible vasculature and biliary tree appear normal without distension or congestion.

Gallbladder is moderately overdistended with organized, aggregated and centralized non-gravity dependent sludge. Striations of sludge separated by anechoic areas are noted extending from the lumen to the luminal wall. The wall is mildly thick, irregular and hyperechoic. There is no evidence of CBD dilation.

### *Gastrointestinal*

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The visible stomach wall is normal in thickness and layering. The lumen of the stomach is empty with no evidence of obstruction, foreign material or infiltrative disease. Pyloric outflow tract appears patent.

The visible small intestines are normal in wall thickness and layering. Small intestinal motility appears adequate (1-3 contractions per min). The lumen of the small intestine is empty with no evidence of obstruction, foreign material or infiltrative disease.

The visible colon is normal in wall thickness and layering. Contents are consistent with normal formed feces and gas.

### *Pancreas*

The observed pancreas appears appropriately isoechoic to surrounding omental fat. Visible capsule is smooth and normal in contour. Visible pancreatic parenchyma is homogenous and unremarkable. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

### *Free Abdomen*

There is no evidence of peritoneal effusion. The mesenteric lymph nodes are prominent in size with swollen capsular contour. Normal elongated shape (length to width ratio) is maintained. There is no loss of parenchymal detail.

## ULTRASONOGRAPHIC FINDINGS

### Primary Findings

- Nodular Liver - This finding is concerning for infiltrative disease such as round cell neoplasia or metastatic neoplasia, especially given the subjective progression from the previous exam. Benign disease , however, including nodular hyperplasia cannot be ruled out given the chronicity of the lesions and tissue sampling is strongly recommended.
- Gallbladder mucocele. The appearance of the mucocele has subjectively progressed from the last scan.
- Splenic micronodular hyperplasia pattern – This nodular change is often associated with benign aging nodular hyperplasia. Infiltrative neoplasia, however, including both early hemangiosarcoma as well as round cell neoplasia cannot be ruled out.

### Secondary Findings

- Chronic Cystitis - Urinary bladder wall changes are most consistent with chronic cystitis. Infiltrative neoplasia cannot be ruled out but is considered less likely give the location and diffuse nature of the changes.
- A dystrophic hydronephrosed right kidney, likely secondary to chronic nephrolithiasis and age-related/degenerative changes in the left kidney.
- Bilateral adrenomegaly – consistent with adrenal hyperplasia secondary to pituitary dependent hyperadrenocorticism vs stress or normal variant. Interpret in combination with clinical signs of hyperadrenocorticism.
- Reactive mesenteric lymph nodes – infiltrative neoplastic disease cannot be ruled out but is considered less likely

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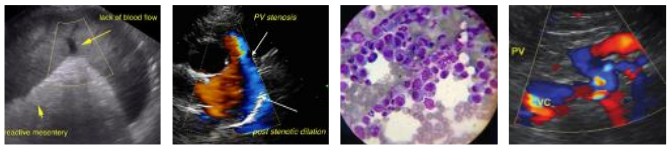

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## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Given this patients new hypoalbuminemia, recommendations include:

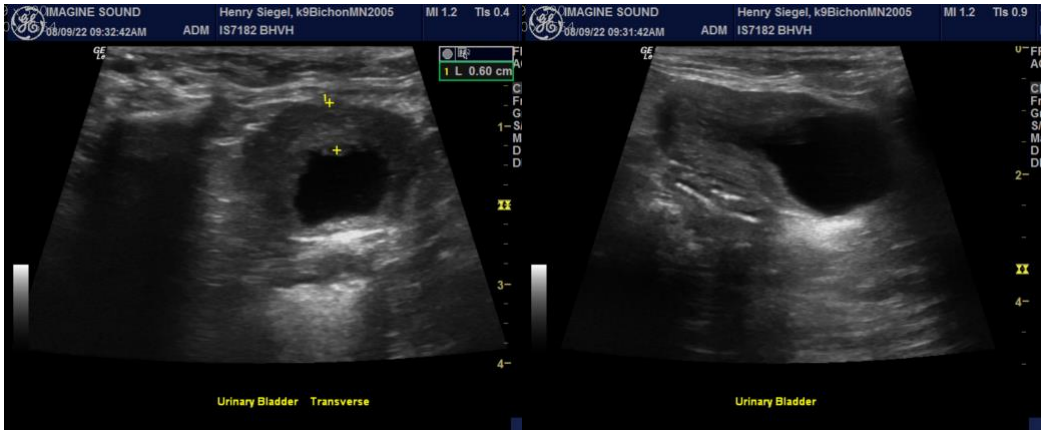
Urinalysis and, if indicated based on urinalysis results, urine culture are recommended. If protein is present in an otherwise quiet sediment, protein quantification with a urine protein to creatinine ration is recommended.

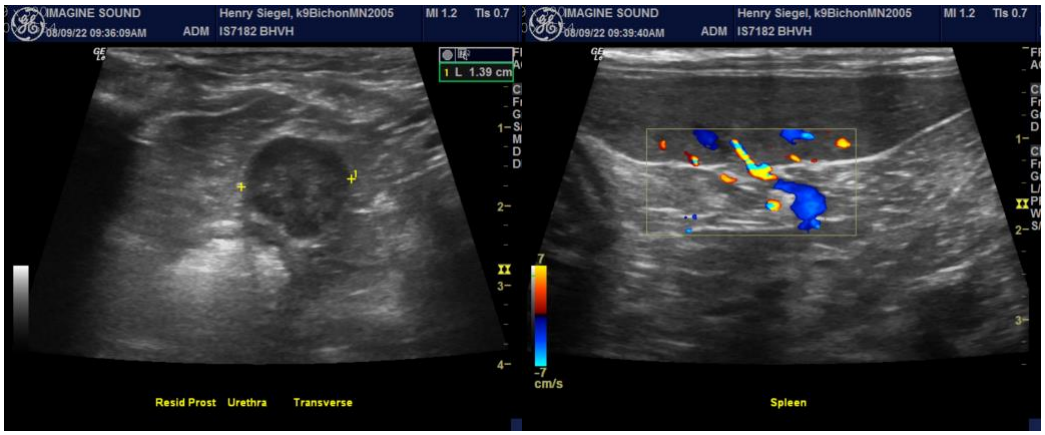
A gastrointestinal malabsorption panel (including cobalamin, folate, TLI and PLI) to Texas A&M GI Laboratory is recommended for further evaluation of GI and pancreatic function.

A blood pressure is recommended as well, if not recently evaluated, given the concern for early chronic kidney disease, as well as the new hypoalbuminemia.

If not already evaluated, a fine needle aspirate of the liver is strongly recommended, if patients coagulation status is appropriate. Alternatively, if clinical signs and/or laboratory changes are consistent with those of a gallbladder mucocele, including cranial abdominal pain, inappetence, nausea, etc., exploratory laparotomy for cholecystectomy and liver biopsy could be planned instead.

In the meantime, given this patients soft stools and low albumin, if tolerated, transition to a low-fat diet may help alleviate some of the GI signs with caution, however, as low-fat diets are typically higher in protein, which is not ideal for early kidney disease.



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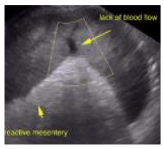
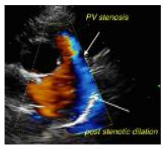
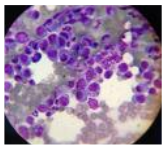
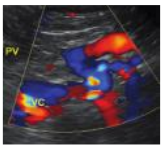

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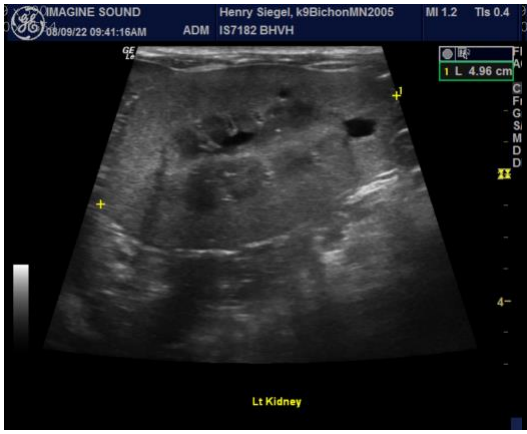


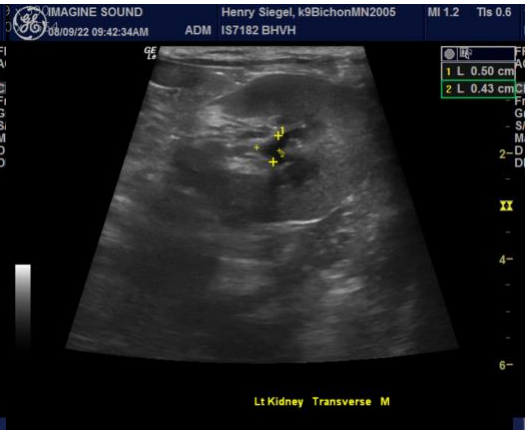


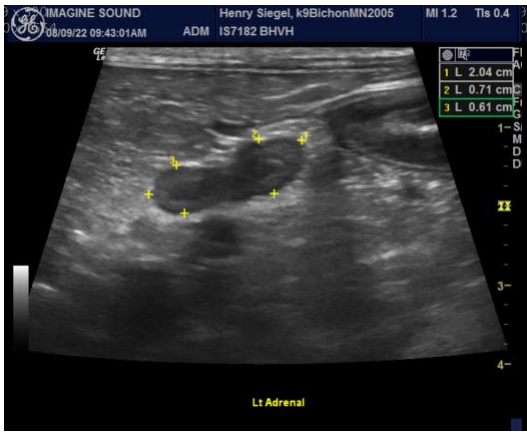


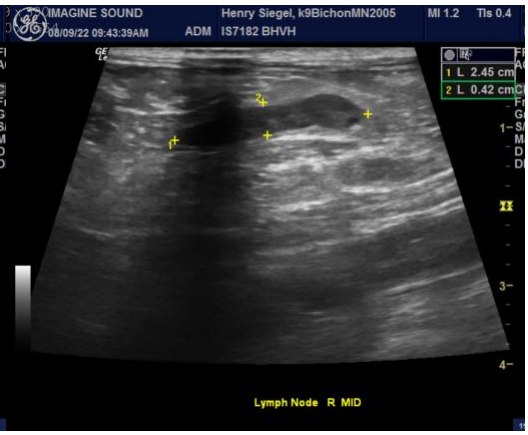


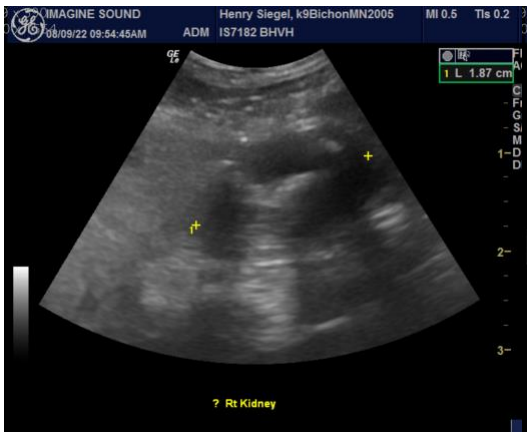


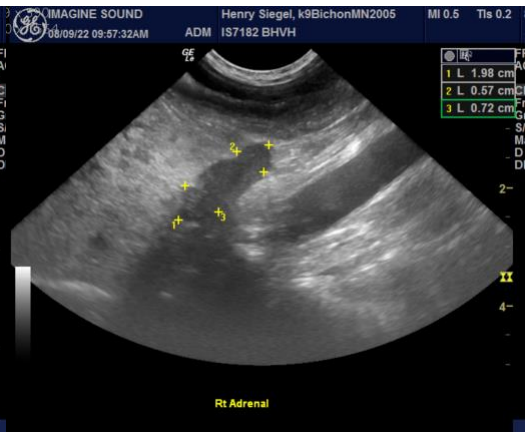

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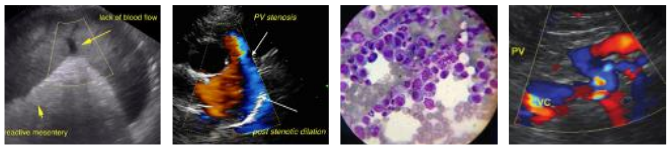

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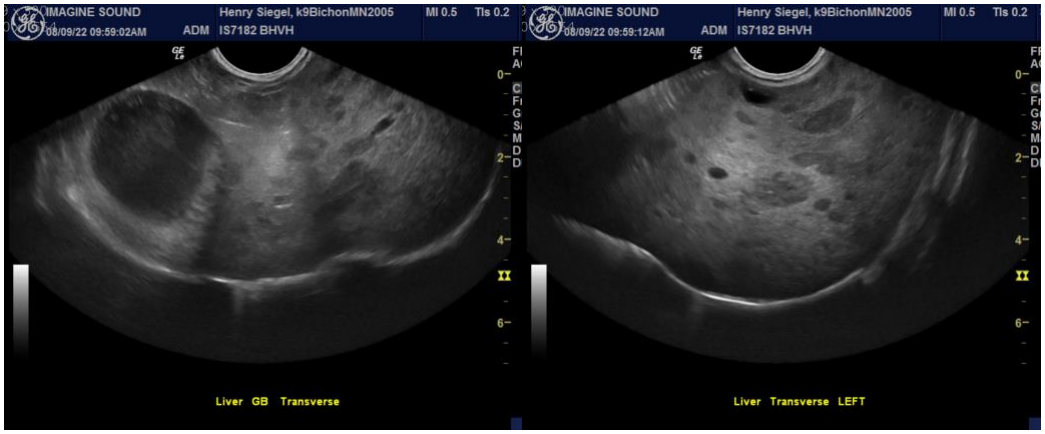


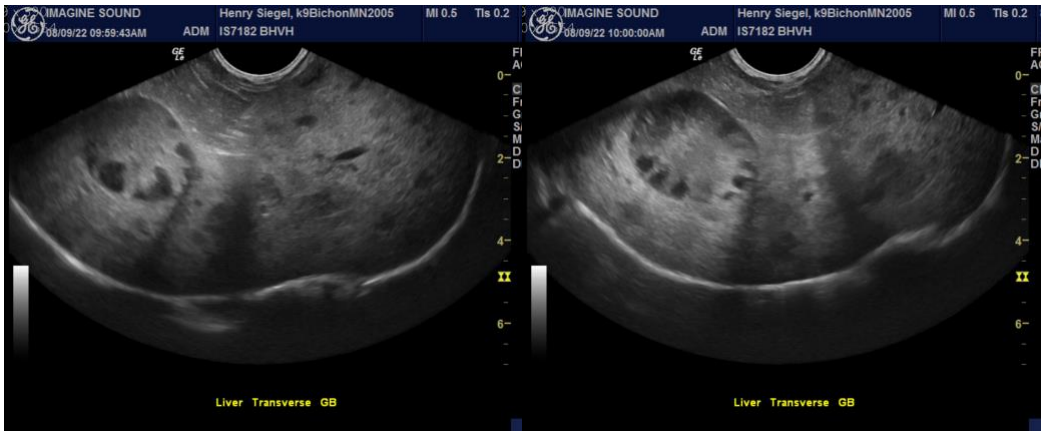


**The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.**

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**

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