

**PATIENT PRESENTING CLINICAL SIGNS**

Toby Hattie elevated liver enzymes and calcium, concern for neoplasia  
Abnormal PE/Chem/CBC/UA Results: elevated ALP, ALT, Ca, chol, low phos

**SPECIES ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

Canine **Urinary System**

**BREED**

Chihuahua X

The urinary bladder is adequately distended with primarily anechoic contents and occasional echogenic non-shadowing debris. Apical urinary bladder wall is diffusely thick. Mucosa is hyperechoic and irregular with multiple pedunculated masses extending into the lumen of the bladder. Several cystoliths are noted along the dependent wall. The largest measures approximately 1.0 cm. The trigone and visible pelvic urethra are normal thickness with a smooth mucosal surface.

**SEX**

Neutered Male

Prostate (neutered) is normal in size, echotexture and echogenicity for a neutered male.

**AGE**

12 Years

The right kidney is normal in size (5.2 cm) 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 echogenicity and mild loss of corticomedullary distinction. There is no evidence of pyelectasia or infarcts observed. Non-obstructive areas of mineralization/nephroliths are noted, primarily in the diverticular of the kidney.

**WEIGHT**

10.5 kg

The left kidney is normal in size (5.16 cm) 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 echogenicity and mild loss of corticomedullary distinction. There is no evidence of pyelectasia or infarcts observed. Non-obstructive areas of mineralization/nephroliths are noted, primarily in the diverticular of the kidney.

**INTERPRETED BY**

Beth Johnson, DVM  
DACVIM

**Adrenal Glands**

The right adrenal gland is normal in size (2.37 cm long x 1.67 cm at the cranial pole and 1.07 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

**IMAGING PERFORMED BY**

Kelly Reschny

The left adrenal gland is normal in size (2.46 cm long x 0.68 cm at the cranial pole and 0.65 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

**HOSPITAL NAME**

New Hamburg VC

**Spleen**

The 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.

**REFERRING VET**

Dr. Findlater

**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.

**INVOICE**

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The 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.

**DATE**

6/28/22


**PATIENT** *Gastrointestinal*

Toby Hattie 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, foreign material or infiltrative disease. Pyloric outflow tract appears patent.

**SPECIES**

Canine

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, foreign material or infiltrative disease.

**BREED**

Chihuahua X

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

**SEX**

Neutered Male

**Pancreas**

The pancreatic parenchyma is appropriately isoechoic to surrounding tissue. Visible capsule is smooth and normal in contour. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

**AGE**

12 Years

**Free Abdomen**

There is no evidence of peritoneal effusion. There is no apparent lymphadenopathy.

**WEIGHT**

10.5 kg

**PRIMARY FINDINGS**

- Splenic micronodular hyperplasia – 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.
- Polypoid Cystitis – Urinary bladder wall changes are most consistent with polypoid cystitis. Infiltrative neoplasia cannot be ruled out but is considered less likely given the appearance of the polyps. Multiple cystoliths are present.

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 Beth Johnson, DVM  
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**SECONDARY FINDINGS**

- Age related kidney change – This finding is expected/consistent with age-related mild degenerative disease and should be interpreted clinically in combination with laboratory changes.
- Bilateral non-obstructive nephrolithiasis.
- 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.

**IMAGING PERFORMED BY**

Kelly Reschny

**HOSPITAL NAME**

New Hamburg VC

**REFERRING VET**

Dr. Findlater

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**
**INVOICE**

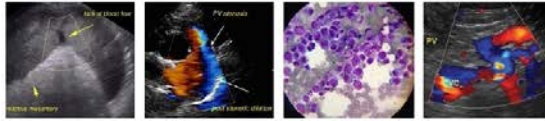
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- Three view thoracic radiographs are recommended for further assessment of cardiopulmonary status as well as to further evaluate for any evidence of metastatic disease, if not recently evaluated.

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- 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.



**PATIENT**

Toby Hattie

- Given this patient's reported hypercalcemia, recommendations include further workup of the hypercalcemia beginning with a malignancy panel to include PTH, PTHrP, and ionized calcium.

**SPECIES**

Canine

- In the meantime, a fine needle aspirate of the spleen could be considered if the patient's coagulation status is appropriate. However, if the malignancy panel comes back suggestive of hyperparathyroidism over neoplasia, the recommendation of the fine needle aspirate is less indicated.

**BREED**

Chihuahua X

**SEX**

Neutered Male

**AGE**

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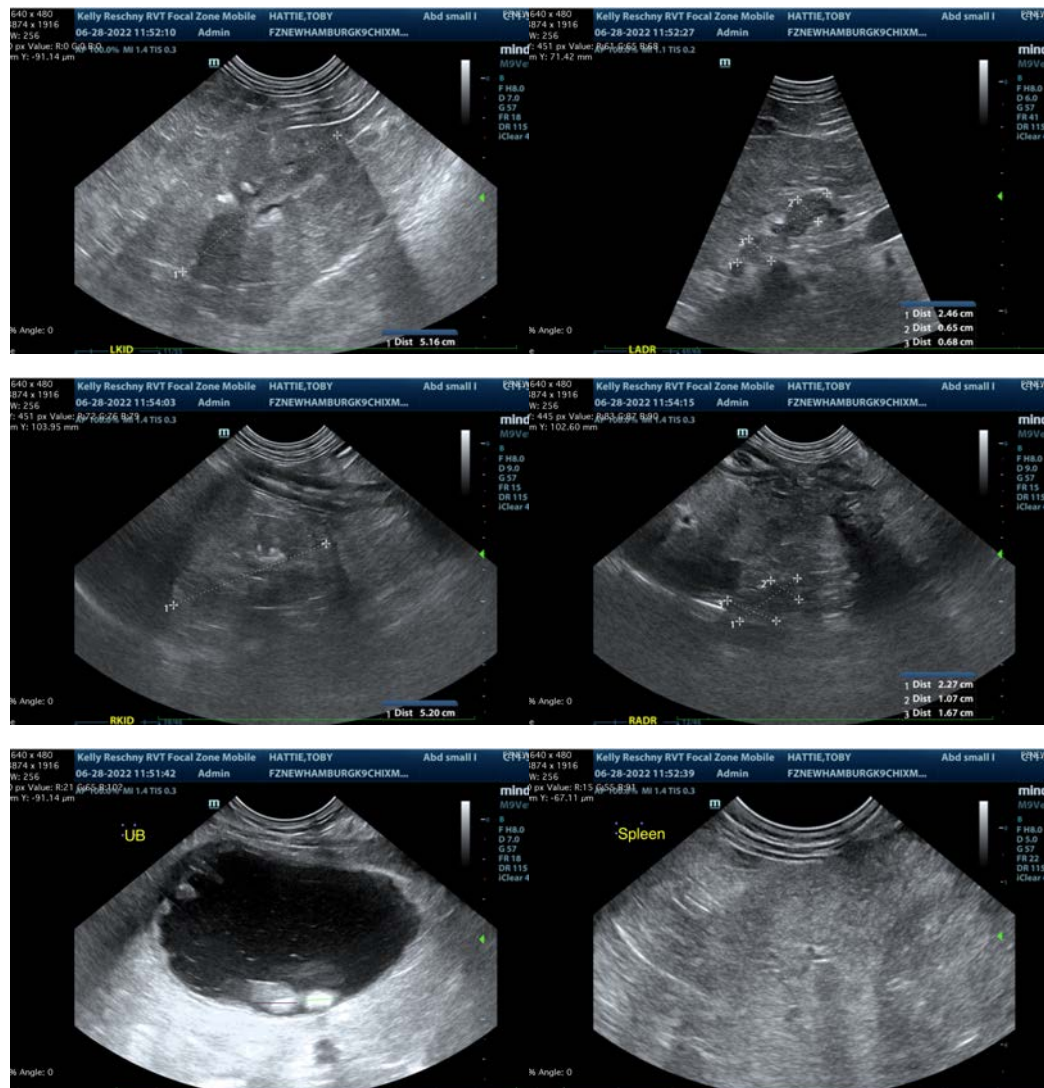
Dr. Findlater

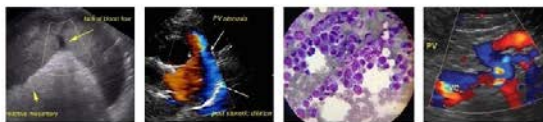
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**PATIENT**

Toby Hattie

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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**  
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