



**PATIENT**

Shaft Turman-Bounds

**SPECIES**

Feline

**BREED**

DSH

**SEX**

Neutered Male

**AGE**

5 Years

**WEIGHT**

13.4 Pounds

**INTERPRETED BY**

Beth Johnson, DVM  
DACVIM

**IMAGING PERFORMED BY**

A. Murphy, CVT

**HOSPITAL NAME**

Wauwatosa VC

**REFERRING VET**

Dr. Ericka Haynes

**INVOICE**

35352

**DATE**

2/1/22

**PRESENTING CLINICAL SIGNS**

Urate bladder stones removed in December. Bile acids test abnormal, screening for abdominal liver shunt  
Abnormal PE/Chem/CBC/UA Results: elevated bile acids

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

Urinary bladder is moderately distended. It has a normal uniform wall thickness (<0.2 cm). Contents include primarily anechoic fluid combined with suspended echogenic non-shadowing debris within the fluid. No masses or cystoliths are observed. The trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.

The right kidney is normal in size (3.88 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 (3.63 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 (0.7 long x 0.32 cm thick), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

The left adrenal gland is normal in size (0.9 cm long x 0.29 cm thick), 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.

The gallbladder is non-distended in size. The wall is smooth without visible thickening. Luminal contents are primarily anechoic. There is no evidence of cystic or common bile duct dilation.

**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, foreign material or infiltrative disease. 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, foreign material or infiltrative disease.



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

**SPECIES**

**Pancreas**

Feline

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.

**BREED**

**Free Abdomen**

DSH

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

**SEX**

**ULTRASONOGRAPHIC FINDINGS**

Neutered Male

- Urinary bladder sediment – Urine changes are most consistent with incidental suspended lipid in a cat, however, cellular debris or crystalluria cannot be ruled out and should be interpreted in combination with urinalysis results.

**AGE**

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

5 Years

There is no obvious visible shunt apparent in these images. The liver is of normal size. However, cats with portosystemic shunts can have normal sized livers. While many cases of urate stones in cats are not related to shunts and have an unidentifiable underlying cause, this patient's increased bile acids lends more support to a possible portosystemic shunt. Therefore, recommendations are further imaging of the portal hilus with an image that clearly shows the portal vein and vena cava with color flow doppler at the same time to determine the ratio in sizes and/or further abdominal imaging in the form of an abdominal CT scan. Ultimately, pending the results of further ultrasound and/or CT scan, surgery is likely recommended to either correct a shunt if diagnosed, or biopsy the liver if not.

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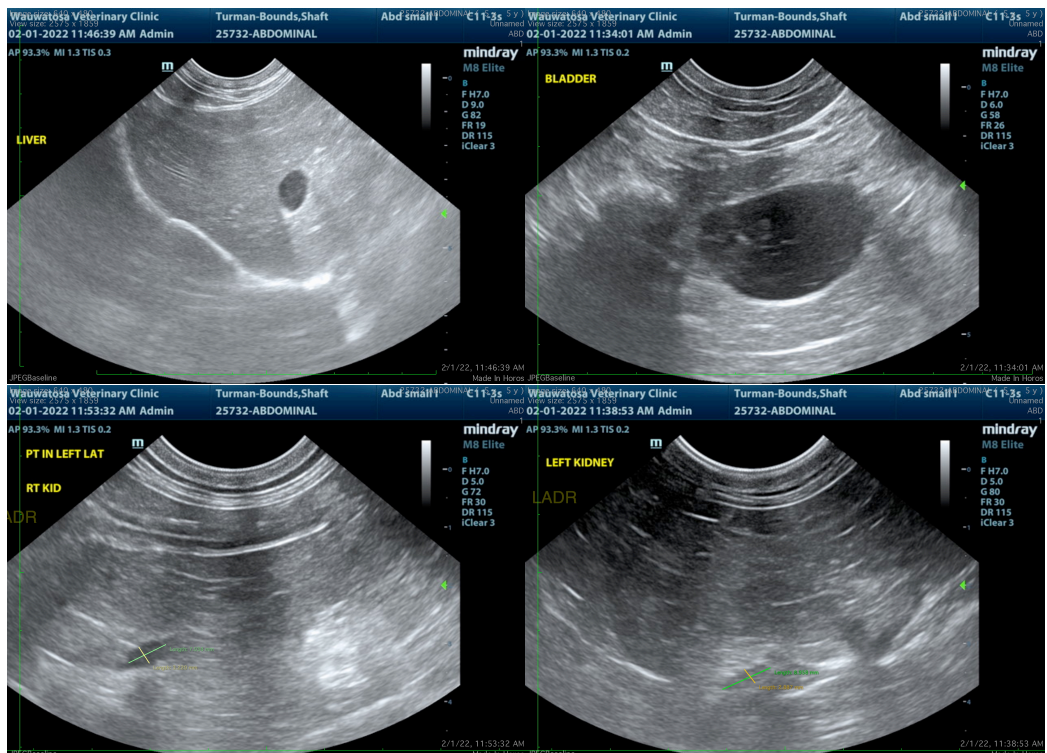
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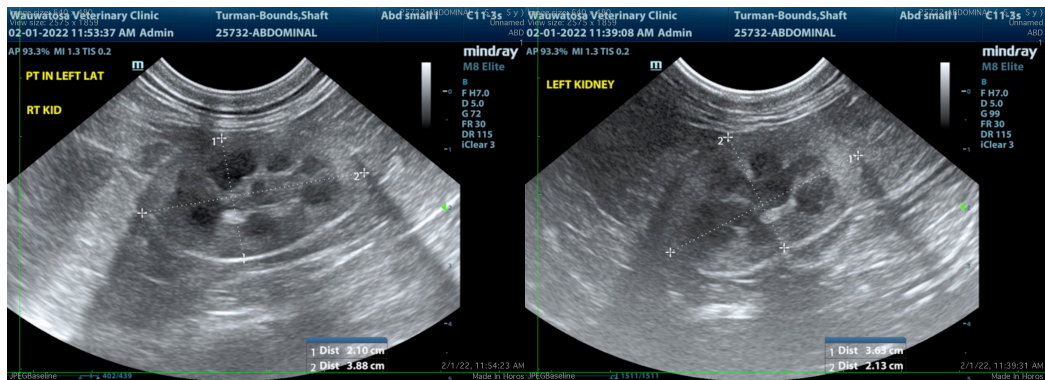
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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