



<b>PATIENT</b>	<b>PRESENTING CLINICAL SIGNS</b>
Twinkle Midha	Liver enzyme work up, ALT elevated, bile acids pre and post elevated. Seizure 1x. No current meds.
<b>SPECIES</b>	Abnormal PE/Chem/CBC/UA Results: ALT elevated, bile acids pre and post elevated ALT 225, GGT 12, Bile Acids pre 57.5, Post 42.8
Canine	<b>ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN</b>
<b>BREED</b>	<b>Urinary System</b>
Miniature Pinscher	The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 2 cm exhibited normal thickness and tone. Anechoic urine was present in the lumen with non-dependent particulate sediment. The sediment may indicate cellular debris / protein, crystalline debris, lipid, or mucus. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes were noted.
<b>SEX</b>	
FI	Normal size and margination were present in the kidneys. A normal 1:3 cortex / medulla ratio and normal corticomedullary definition were maintained. The echogenicity of the cortex was similar to or slightly less than normal liver parenchyma while the medulla echogenicity was hypoechoic to the cortex with no evidence of pelvic dilation. Bilateral pinpoint medullary mineral was present. The left kidney measured 4.6 cm in length. The right kidney measured 5.5 cm in length.
<b>AGE</b>	
7yr	The area of the aortic trifurcation was free of pathology.
<b>WEIGHT</b>	
7	The uterus exhibited normal wall layering and mild segmental to generalized uterine fluid dilation. The uterine fluid was anechoic without evidence of echogenic fluid debris.
<b>INTERPRETED BY</b>	The right ovary was free of pathology measuring 1.2 cm in diameter. The area of the left ovary was free of pathology.
R. McKenzie Daniel, DVM, DABVP (Canine and Feline)	<b>Adrenal Glands</b>
<b>IMAGING PERFORMED BY</b>	The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 0.75 cm width at the caudal pole and 0.67 cm width at the cranial pole. The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 0.63 cm width at the caudal pole.
Jessica Miller	<b>Spleen</b>
<b>HOSPITAL NAME</b>	The spleen exhibited a finely textured and homogenous parenchyma which was hyperechoic to the liver and renal cortical parenchyma. The capsule was smooth and regular without apparent expansion. The splenic vasculature at the hilus was normal in volume with no evidence of congestion or thrombosis. Acute to chronic inflammatory, neoplastic, or benign parenchyma changes were not noted.
Banfield PH of Bridgewater	<b>Liver/Gallbladder</b>
<b>REFERRING VET</b>	
Dr. Baker	The liver was subjectively normal in size, structure, and contour. The liver parenchyma was uniform and hypoechoic to the spleen with a mild coarse echotexture. The hepatic and portal vasculature were normal in appearance without signs of congestion. Normal hepatic vascular volume. The visualized portal vein appeared to exhibit subjective normal volume. The portal vein measured 0.55 cm in diameter. The cranial abdominal caudal vena cava measured 0.55 cm in diameter.
<b>INVOICE</b>	
13404ag	
<b>DATE</b>	
04/04/2023	The gallbladder was non-distended in size with thin walls and primarily anechoic luminal content and probable mild congealed non-homogenous luminal debris. Minor potential for benign gallbladder



**PATIENT**

Twinkle Midha

polyps. No evidence of gallbladder or peripheral gallbladder inflammation was present. The cystic and common bile ducts were normal.

**Gastrointestinal**

**SPECIES**

Canine

The stomach presented intact wall layering with a normal wall layer ratio. The lumen of the stomach was empty with no signs of ileus, obstruction or foreign material.

The small intestine presented intact wall layering with 1:3 muscularis/mucosa ratio. The lumen of the small intestine was empty with no signs of ileus, obstruction or foreign material.

**BREED**

Miniature Pinscher

Normal visible colon wall layers were present with apparent formed feces in lumen.

**Pancreas**

**SEX**

FI

The parenchyma of the left limb, body and right limb of the pancreas presented isoechoic to the adjacent omental fat. A normal curvilinear capsule contour of the pancreas was present. The visible pancreatic duct was normal. No signs of active inflammation or neoplastic disease was evident.

**AGE**

7yr

**Free Abdomen**

No omental masses, overt lymphadenopathy or peritoneal effusion was present.

**ULTRASONOGRAPHIC FINDINGS**

**WEIGHT**

7

- Mild urinary bladder sediment-no evidence of cystic mineral/calculi.
- Pinpoint bilateral renal medullary mineral
- Normal volume liver.
- Gallbladder debris (non-mucocele).
- Mild fluid dilated uterus.

**INTERPRETED BY**

R. McKenzie Daniel,  
DVM, DABVP  
(Canine and Feline)

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

The mild fluid dilated uterus is non-specific assuming no evidence of current estrus signs. Potential for emerging to mow grade hydrometra, mucometra or pyometra possible. No definitive evidence of macroscopic intra/extrahepatic shunting. Primary parenchymal disease such as inflammatory hepatopathy or portal hypoplasia/microvascular dysplasia possible. Assuming normal clotting status and using a 25g needle, a hepatic FNA for screening cytology could be considered for further assessment. If patient is stable without recurrent seizure episodes, OVH with surgical liver biopsy could be considered. Abdominal +/- intracranial CT may be indicated if recurrent or progressive seizure episodes. A clinical trial of the following may be considered empirically.

**IMAGING PERFORMED BY**

Jessica Miller

**HOSPITAL NAME**

Banfield PH of  
Bridgewater

**Royal Canin Hepatic Support diet or Hills L/D, Metronidazole (7.5 mg/kg PO bid) over the next 14 days, Lactulose (Oral: 3.1-3.7 g/5 ml lactulose in a syrup base) long term to target 2-3 soft stools/day, with a high-quality protein supplement of minor amount of yogurt or cheddar cheese.** Monitor bile acids, with attention paid to dropping albumin, BUN or cholesterol. SAME and nutraceuticals as needed. **Ursodiol (10-15 mg/kg p.o. q24h)** can be considered as hepatoprotectant and to enhance bile flow. **Zinc** serum level keep between 200–500 ug/dl. If deficient then Tx zinc acetate 1-3 mg/kg/day. Gastrointestinal protectants are recommended if the patient is anorexic.

**REFERRING VET**

Dr. Baker

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**ABOUT SONOPATH CT SERVICES:**

**DATE**

04/04/2023

SonoPath CT Services are offered at the SonoPath Imaging and Veterinary Education Center, 141



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Main St (rt 206), Andover, New Jersey, a 20-minute drive west on route 80/206 North from the route 80/287 interchange/Parsippany, New Jersey. More information can be found at

<https://sonopath.com/services/sonopath-ct-services>

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**REFERRING VET**

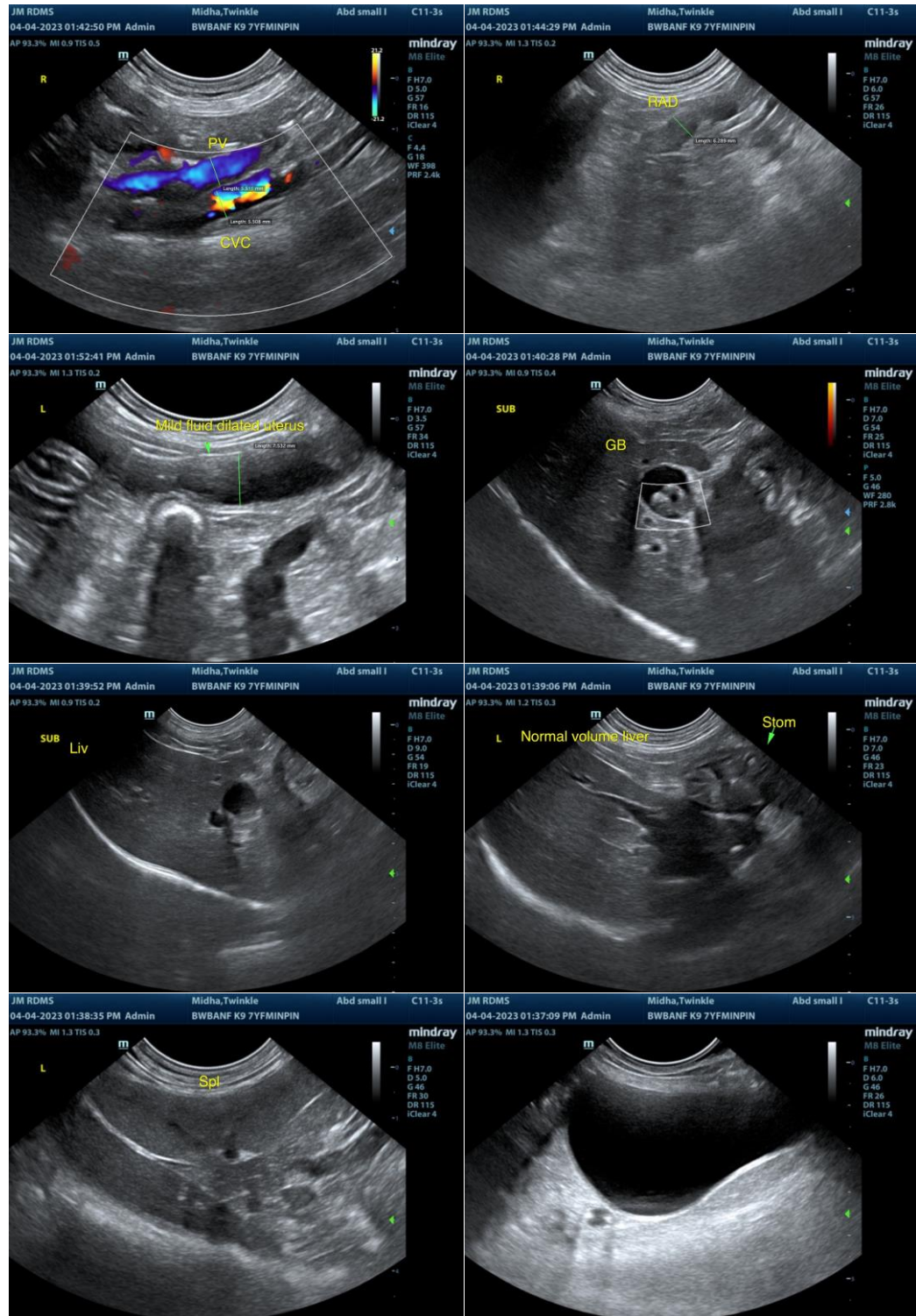
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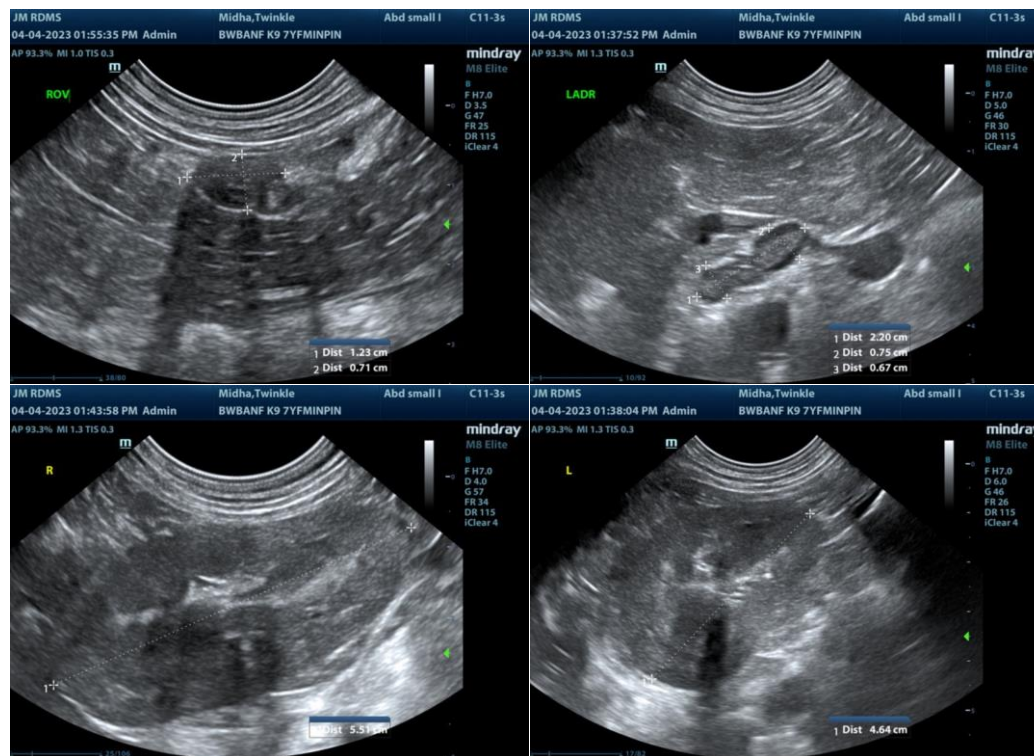
Dr. Baker

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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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