

**PATIENT PRESENTING CLINICAL SIGNS**

Crispy DrKelly  
Crispy Jessica Kelly Abdominal ultrasound Bile acid test shows liver dysfunction. Owner reports reduced appetite. Currently on 50mg of Amoxicillin bid

**SPECIES ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

Canine

**Urinary System**

BREED

Chihuahua

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 no uroliths or sediment. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes were noted.

SEX

FS

Normal size and margination were present in the kidneys. A normal 1:3 cortex / medulla ratio was maintained. The medulla and cortices were uniform in texture with some increased echogenicity and mild loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation was present. The left kidney measured 2.9 cm in length. The right kidney measured 3.0 cm in length.

AGE

2009

The area of the aortic trifurcation was free of pathology.

WEIGHT

2.3kg

**Adrenal Glands**

The bilateral adrenal glands exhibited borderline prominent size with mild capsule asymmetry and non-homogenous discretely nodular parenchyma. The left adrenal gland measured 0.55 cm width at the caudal pole and 0.39 cm width at the cranial pole. The right adrenal gland measured 0.53 cm width at the caudal pole and 0.9 cm width at the cranial pole.

**INTERPRETED BY**

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

**Spleen**

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.

**IMAGING PERFORMED BY**

Loetitia Saint-Jacques,  
LVT

**HOSPITAL NAME Liver/Gallbladder**

Roundhill Animal  
Hospital

The liver exhibited normal size with adequate vascular volume. Minor parenchyma remodeling exhibiting normal overall echogenicity was present. Focal to possible intermittent non-disruptive well-demarcated mildly hypoechoic nodules were present, an example measuring 1.0 cm in diameter. The visualized portal vein appeared to exhibit normal cranial branching.

**REFERRING VET**

Dr. Kelly

The gallbladder was non-distended in size with thin walls and primarily anechoic luminal content with mild variably hyperechoic non-organized debris. No evidence of gallbladder or peripheral gallbladder inflammation was present. The cystic and common bile ducts were normal.

**INVOICE**

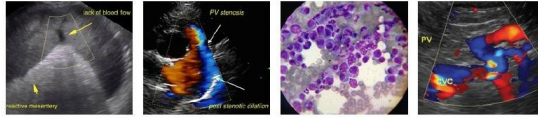
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**Gastrointestinal**

**DATE**

03/13/2023

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.



**PATIENT**

Crispy DrKelly

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.

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

**SPECIES**

Canine

***Pancreas***

The pancreas was normal in size and contour with isoechoic to heterogeneous parenchyma compared to adjacent omentum. No signs of active inflammation or neoplasia.

**BREED**

Chihuahua

***Free Abdomen***

No omental masses or overt lymphadenopathy was present.

**SEX**

FS

Small pocket of scant peri-intestinal free fluid was present in the mid ventral abdomen.

**AGE**

2009

**WEIGHT**

2.3kg

**ULTRASONOGRAPHIC FINDINGS**

- Mild chronic renal changes.
- Mildly irregular/nodular adrenal glands-suspect age related adrenal changes, potential for adenomatous change or minor benign hyperplasia. Emerging neoplastic criteria is considered unlikely.
- Subjective adequate hepatic vascular volume with non-specific intraparenchymal nodules.
- Gallbladder debris (non-mucocele).
- Sonographically unremarkable GI tract.
- Mild pancreatic remodeling.
- Focal pocket of scant peri-intestinal free fluid-suspected physiologic assuming normal ALB.

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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

No overt evidence of a portosystemic shunt which is thought unlikely. Assuming normal clotting status a hepatic parenchyma and nodule FNA for screening cytology could be considered for further assessment. Core surgical biopsy likely required for definitive diagnosis and assessment of potential microvascular dysplasia.

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Assessment for evidence of cranial abdominal or subxiphoid discomfort on palpation which may allude to low-grade pancreatitis is recommended. As needed GI support is suggested. Some or all of the following may be considered if clinically applicable.

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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.

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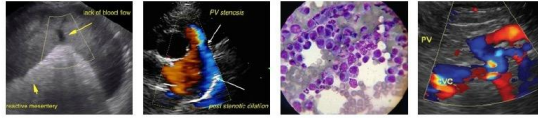
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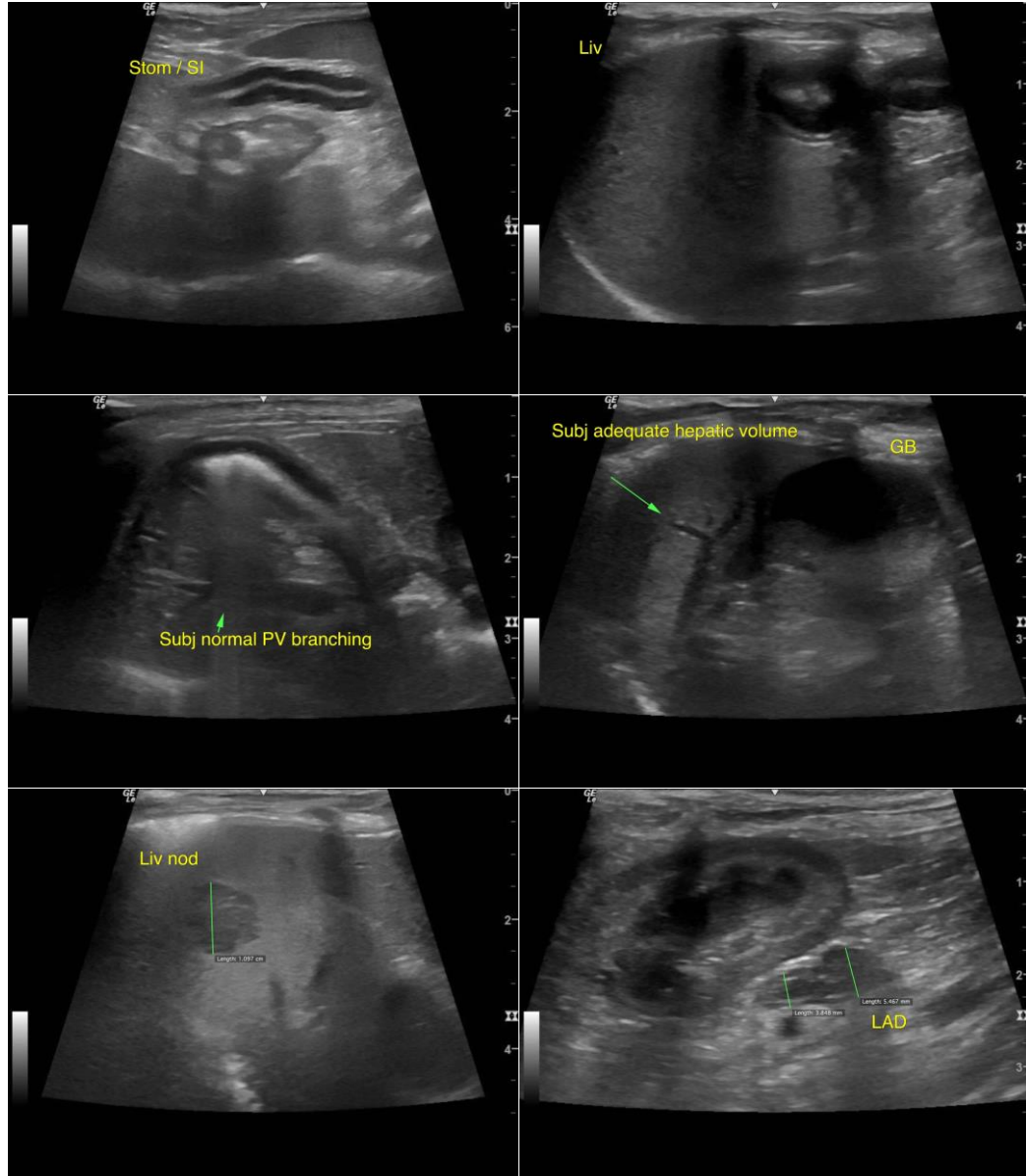
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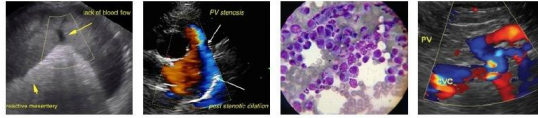
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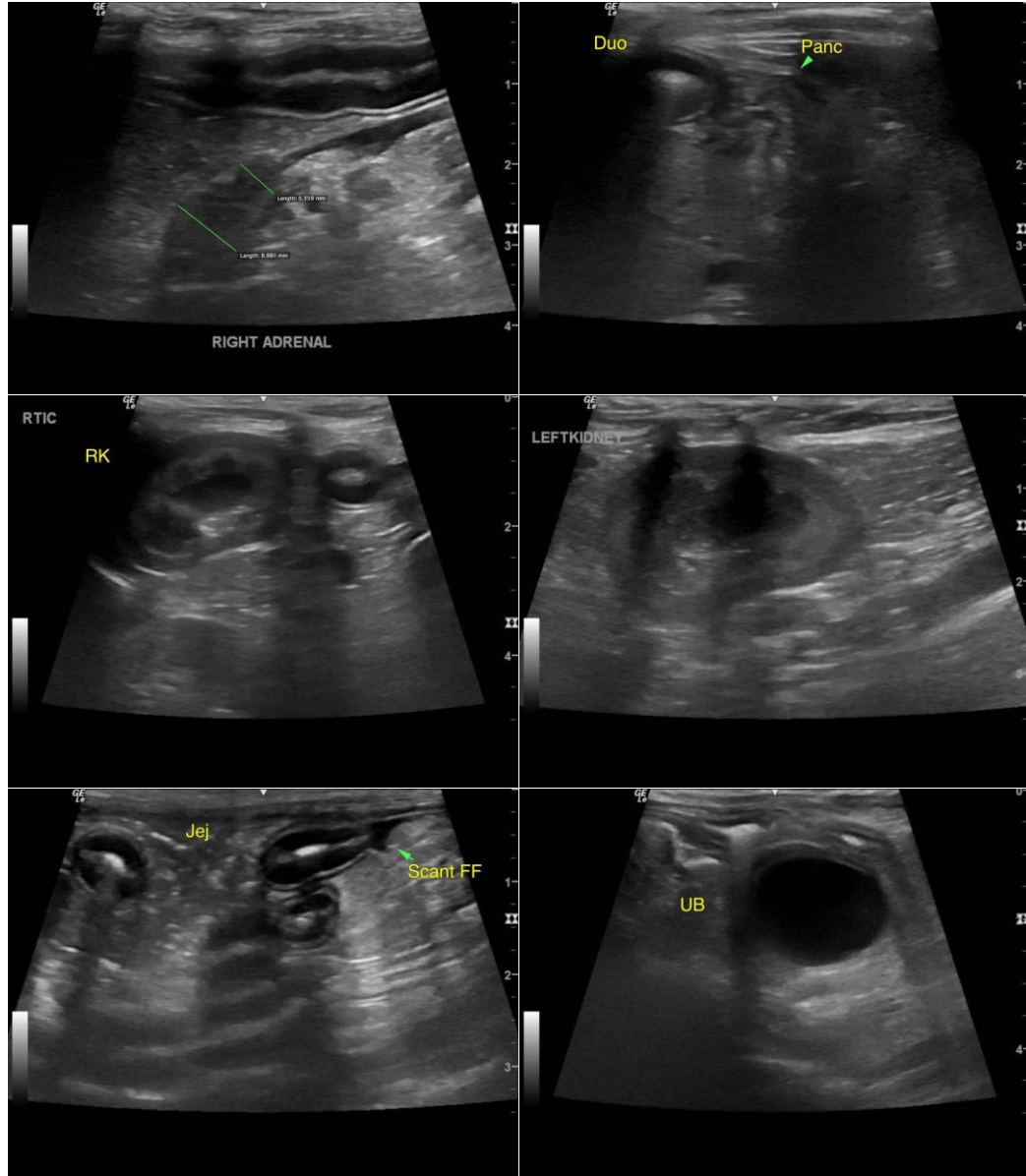
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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