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Clinical Sonography & Telecytology
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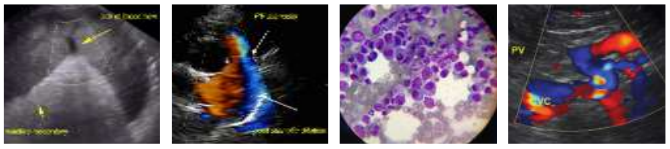


SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT

Cody O'Callaghan

SPECIES

Canine

BREED

Pekingese

SEX

MN

AGE

1 year

WEIGHT

12.2

INTERPRETED BY

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

IMAGING PERFORMED BY

Evanna

HOSPITAL NAME

Animal Care Clinic of Flanders

REFERRING VET

Dr. Hallihan

INVOICE

12482

DATE

10/29/21

PRESENTING CLINICAL SIGNS

vomited bile once , concerned about liver
Abnormal PE/Chem/CBC/UA Results: 10/23 ALT=634 10/8 ALT=282 UA-WNL EXCEPT +2 PROTIEN UPC=.1

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 2.0 cm exhibited normal thickness and tone. Anechoic urine was present in the lumen with no uroliths, sediment, or calculi. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes was noted.

The areas of the residual prostate and aortic trifurcation were free of pathology.

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. The left kidney measured 3.9 cm in length. The right kidney measured 4.2 cm in length.

Adrenal Glands

The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 0.35 cm width at the caudal pole and 0.37 cm width at the cranial pole. The right adrenal gland was indistinctly visualized, yet without pathology subjectively measuring 0.35 cm width at the caudle pole.

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.

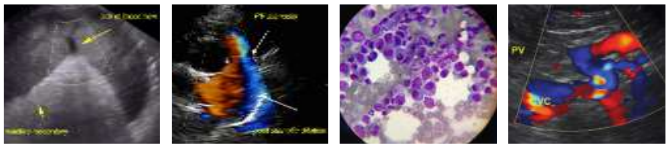
Liver/ Gallbladder

The liver exhibited subjective subnormal size with maintained curvilinear capsule contour. Subjective generalized reduced hepatic parenchyma echogenicity with increased prominence and echogenicity of the portal vascular borders.

The gallbladder was non-distended in size with thin walls and primarily anechoic luminal content. The cystic and common bile ducts were normal.

Gastrointestinal

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 gastric body wall width measured 0.29 cm.



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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. The duodenum wall width measured 0.33 cm.

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

Pancreas

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 were evident.

Free Abdomen

No overt lymphadenopathy or peritoneal effusion was present.

ULTRASONOGRAPHIC FINDINGS

Primary Findings

- Subnormal liver size with prominent to echogenic portal vascular borders - suspect primary potential acute Inflammatory hepatopathy with potential for portal hypoplasia / microvascular dysplasia
- Suspect mild gastritis / gastroduodenitis

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Although the portal vein was not definitively visualized in this study, no overt evidence of Intrahepatic or extrahepatic shunting, given the lack of renal or urinary bladder mineral, was noted. However, bile acid testing is recommended for further assessment. If post prandial bile acids are elevated, i.e., (>80-100), additional imaging may be indicated. Core biopsy or surgical biopsy of the liver may be necessary for further definition, or as to whether portal hypoplasia or microvascular dysplasia are present.

Leptospirosis titer/ PCR may be considered if clinically indicated. Pending bile acid testing, some or all of the following may be considered with as-needed gastrointestinal support and/or additional antibiotic therapy.

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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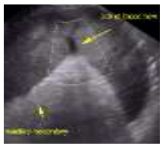
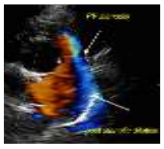
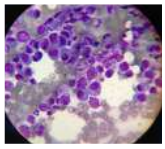
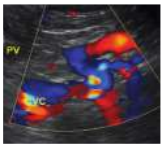

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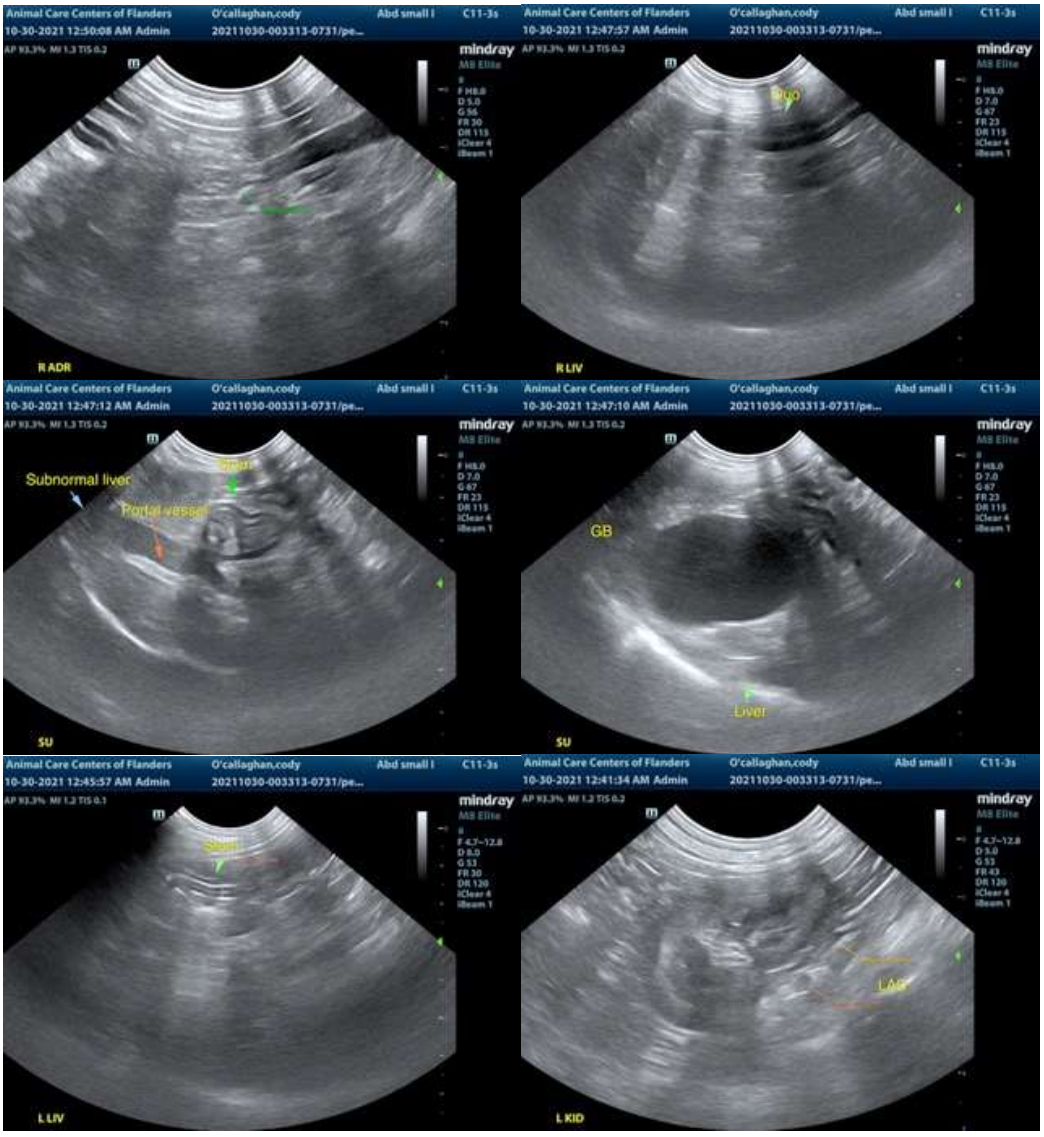

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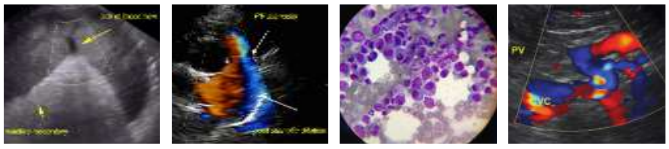

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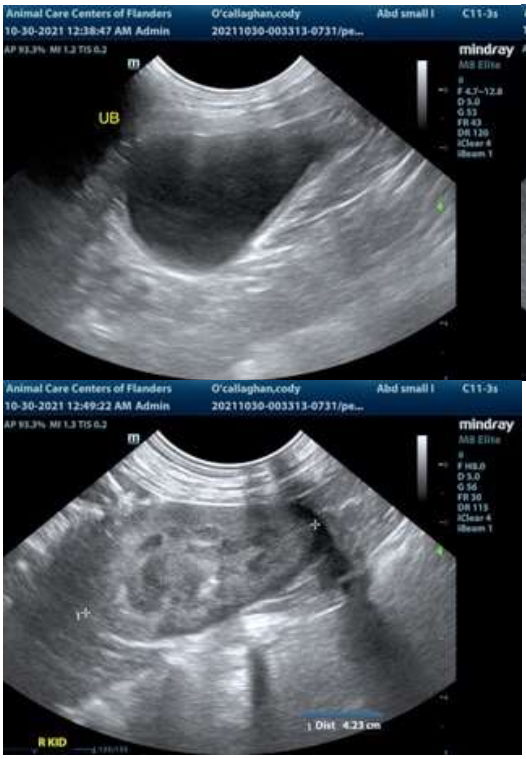

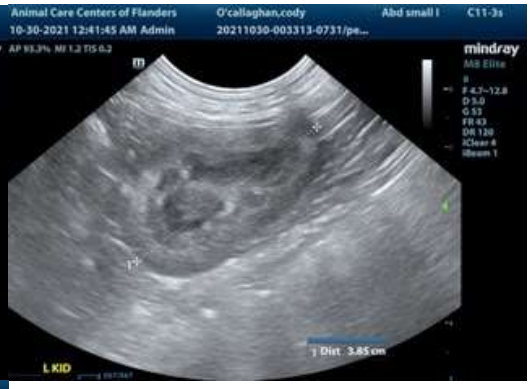

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

R. McKenzie Daniel, DVM, DABVP (Canine / Feline Practice)
info@SonoPath.com