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Clinical Sonography & Telecytology
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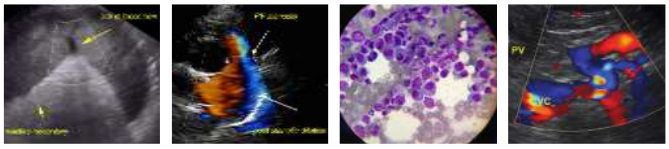

SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT

Beau Grant

SPECIES

Canine

BREED

Shih Tzu X

SEX

MN

AGE

11 years

WEIGHT

9.02 kg

INTERPRETED BY

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

IMAGING PERFORMED BY

Dr. Alastair Westcott

HOSPITAL NAME

Dr. Alastair Westcott DVm

REFERRING VET

Dr. Alastair Westcott

INVOICE

12614

DATE

11/15/21

PRESENTING CLINICAL SIGNS

Presented for episodes of acute vomiting and diarrhea . The last meal was yesterday breakfast. Is on a gastrointestinal-based diet for GI "issues". Does have a chondroprotective injection once a month for arthritis. The diarrhea was a normal brown color and there was nothing obvious in the vomitus. He is shaking and seems uncomfortable.
Abnormal PE/Chem/CBC/UA Results: significant abdominal pain, overweight, arthritis. Chronic-active inflammation with toxic neutrophils Mild hyperglobulinemia Mild hypokalemia Mild elevation in ALT Moderate to high ALP Bilirubinemia Abnormal cPL Urinalysis: Reasonably concentrated - post 2 hours of rehydration Significant proteinuria (strip) - needs UPC quantification Mild bilirubinuria Radiographs: Single view thorax: Normal cardiac dimensions with no pulmonary vessel distension. Age-related costochondral ossification. Pulmonary parenchyma seems normal. Abdominal: Moderate gastric fluid distension, mild-generalized hepatomegaly, no obvious obstructive process noted. There is some air/fluid in the proximal duodenum. Questionable slight evidence of retroperitoneal wispiness which may represent slight effusion.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The bladder was normal to mildly distended in size yet exhibited subjective normal tone. Mild, nondependent, particulate sediment, likely indicative of mild cellular or crystalline debris, was noted. The urethra exhibited normal structure and tone to a depth of 3.0 cm.

The residual prostate was symmetrically normal in size with uniform parenchyma and slight coarse echotexture measuring 0.87 cm in diameter.

The area of the aortic trifurcation was free of pathology.

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 moderate loss of corticomedullary symmetry and definition expected for the age of the patient. Small cortical cysts were present in both kidneys. No evidence of pelvic dilation was present. The left kidney measured 5.6 cm in length. The right kidney measured 5.8 cm in length.

Adrenal Glands

Bilateral prominent yet symmetrical adrenal glands with uniformly hypoechoic parenchyma were present. The left adrenal gland measured 2.4 cm length x 0.64 cm width at the caudal pole. The right adrenal gland measured 1.8 cm length x 0.74 cm width at the caudal 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.

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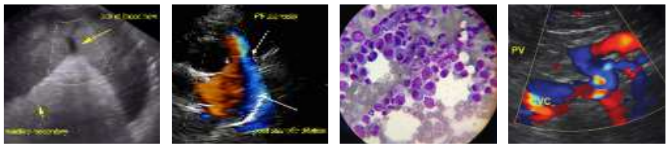

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Liver/ Gallbladder

The liver presented enlarged in size. The parenchyma of the liver was subjectively normal in echogenicity compared to the spleen and renal cortices. The liver parenchyma was uniform with a mildly coarse echotexture. The capsule of the liver was symmetrically rounded to mildly swollen in margination. The hepatic and portal vasculature were normal in appearance without signs of congestion. The gallbladder was normal in size with mildly echogenic to prominent gallbladder walls. The gallbladder contained nondependent organized echogenic luminal debris exhibiting subtle hypoechoic striations. Concurrent mild common bile duct dilation with prominent to echogenic common bile duct walls extending to the level of the duodenal papilla. Evidence of common bile duct mucus was present, yet without overt evidence of calculi. Subjectively, the area of the duodenal papilla appeared to be mildly prominent to thickened, yet not overtly consistent with neoplastic criteria. The common bile duct measured 0.56 cm in diameter. The duodenal papilla measured approximately 0.7 cm width.

Gastrointestinal

The stomach presented wall thickening secondary to echogenic mucosa hypertrophy. Intact wall layering was maintained and distinct. Mild gastric distension with minor retained anechoic fluid was present along with potential focal shadowing nonobstructive curvilinear echo measuring 1.3 cm In diameter. Concurrent mild gastric gas was present.

The duodenum exhibited subjective mild prominent walls, without evidence of mechanical small intestinal obstruction or overt foreign material. The duodenum wall width measured 0.48 cm.

The colon walls presented intact yet mildly prominent wall layering with mild thickened to echogenic submucosa. Generalized nonformed feces was present in the colon lumen with lumen dilation.

Pancreas

The left limb, right limb, and base of the pancreas was nonhomogeneous to indistinctly nodular and prominent In size. Mild asymmetrical capsule margination was present with mild variable parenchymal swelling and mild peripancreatic reactivity / inflammation. No overt evidence of neoplasia.

Free Abdomen

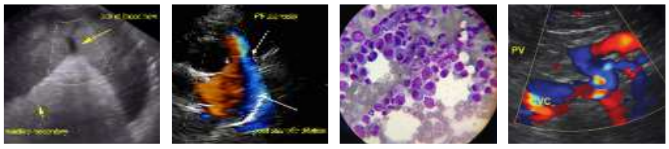
Mid to cranial abdominal reactive to inflamed mesentery along with intermittent subjectively benign to mildly inflamed mesenteric lymphadenopathy were present. An example of a cranial mesenteric lymph node measured 0.8 cm in diameter.

Potential mild pericholecystic free fluid was noted vs. potential vasculature with small pockets of scant free fluid noted in the caudal abdomen around the outer urinary bladder.

ULTRASONOGRAPHIC FINDINGS

Primary Findings

- Active to chronic active pancreatitis with nonhomogeneous to indistinctly nodular parenchyma - suspect parenchymal remodeling and Indistinct areas of nodular hyperplasia, potential for pancreatic neoplasia cannot be excluded yet is thought less likely
- Hepatopathy - subjectively benign



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- Gallbladder mucocele
- Concurrent cholangitis with distal common bile duct mucus and subjective mildly prominent duodenal papilla
- Gastroenterocolitis pattern with possible focal nonobstructive gastric luminal shadowing echo
- Generalized mid to cranial abdominal reactive / inflamed mesentery and intermittent subjectively benign mesenteric lymphadenopathy

Secondary Findings

- Bilateral chronic renal changes with small cortical cysts
- Bilateral mild prominent adrenal glands - nonspecific

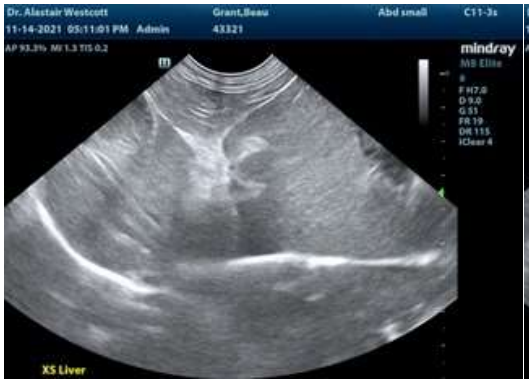
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

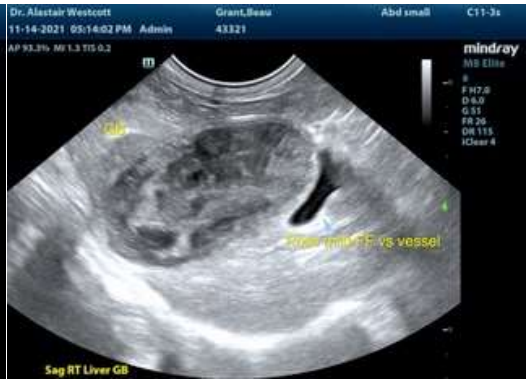
Complicated case with potential multiple abnormalities contributing to the patient's clinical signs.

Given the presence of pancreatitis, hospitalization with aggressive pancreatitis / cholangiohepatitis protocol with as-needed gastrointestinal support and ideally sonographic monitoring of the potential gastric echo, as well as for evidence of progressive Inflammatory pancreatic, hepatic, and gallbladder changes or increasing free fluid, would be reasonable. Broad-spectrum antibiotics such as Enrofloxacin / Metronidazole combination with monitoring for continued rise of hepatic enzyme elevations and degree of icterus, as well as monitoring of CBC, are warranted. A coagulation panel is recommended. However, assuming normal clotting status, cholecystectomy with gross inspection of the common bile duct and duodenal papilla, along with hepatopancreatic biopsies may be indicated with the decision to pursue surgery based on response to initial therapy and serial sonographic and medical monitoring.

Given the presence of gallbladder mucocele and subjective prominent adrenal glands, full adrenal workup, as well as T4 levels may be considered if clinically indicated.

Overall, a guarded prognosis is warranted.





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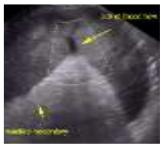
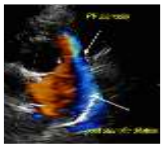
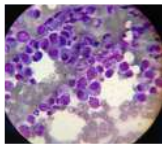
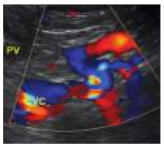

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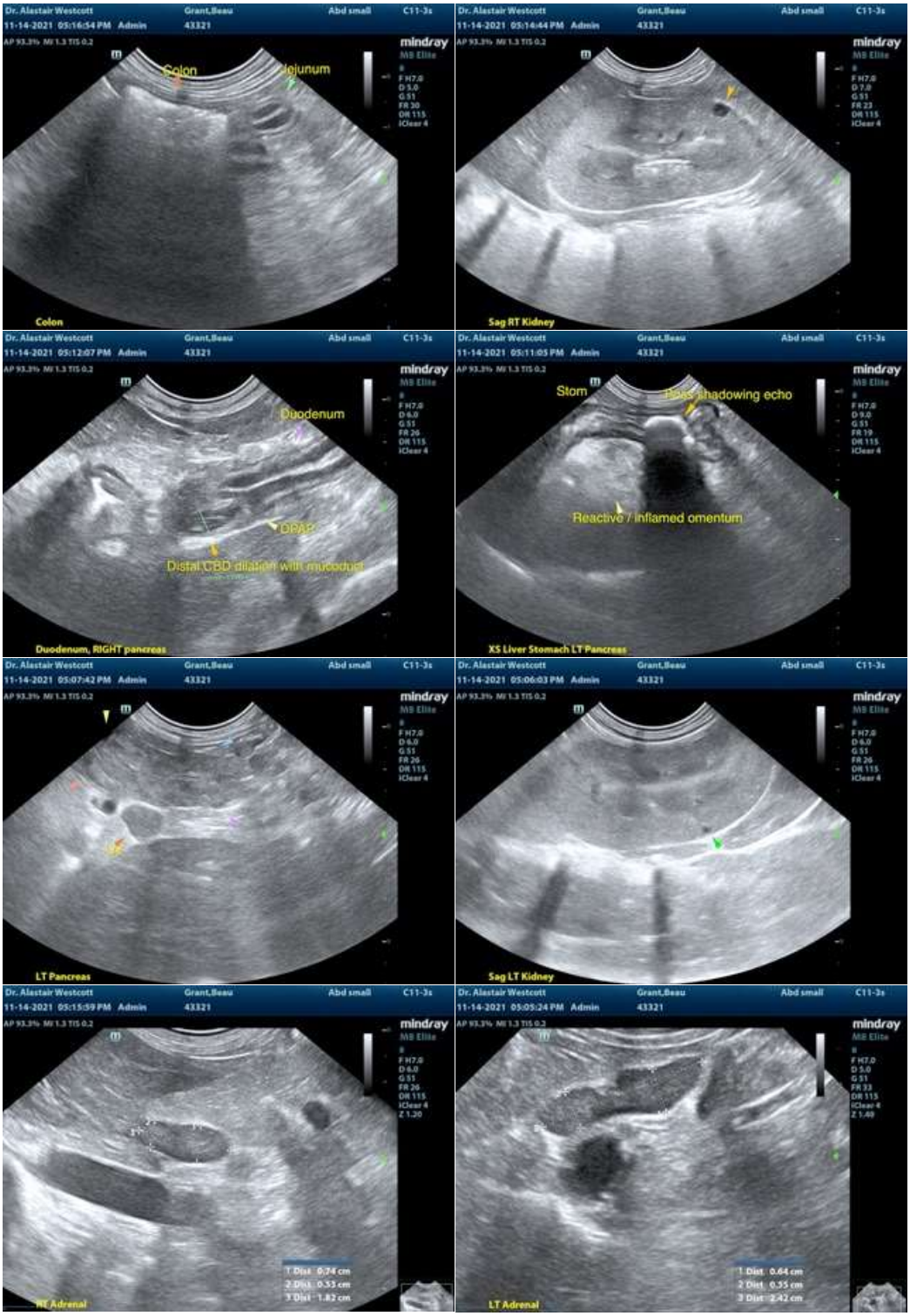

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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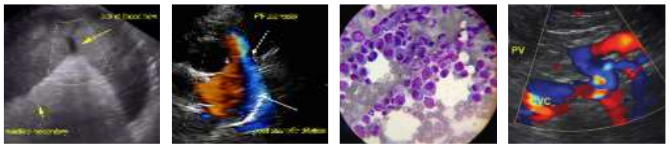

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Thank you for this referral. If the clinical or image interpretation does not parallel your findings or if I can be of any further assistance please contact me.

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