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Clinical Sonography & Telecytology
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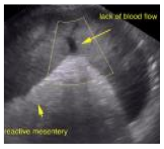
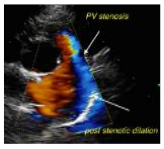
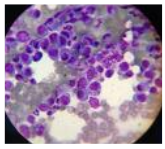
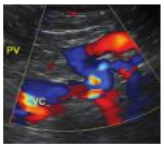





SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT

Hootie Zivney

SPECIES

Canine

BREED

Cockapoo

SEX

Spayed Female

AGE

15 Years

WEIGHT

6.5 kg

INTERPRETED BY

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

IMAGING PERFORMED BY

Patti Mayfield, DVM

HOSPITAL NAME

Bend Animal E & SC

REFERRING VET

Adam Stone, DVM

INVOICE

14124

DATE

2/28/22

PRESENTING CLINICAL SIGNS

History: Presenting complaint: Evaluation of ascites-- Hootie was evaluated on 2/25/22 through cardiology department for re-evaluation of mitral valve disease (Stage B2), historic MV ruptured chordae tendonae (presently stable) and mild tricuspid regurgitation. At the time, severe ascites was appreciated and 1300 mL was removed. Patient had diarrhea (was switched to Royal Canin) which appears to be melena. When she changes back to a different product the melena resolves. No vomiting. Appetite: improved after abdominocentesis She has always been fussy. Appetite is fair. MEDS: Gabapentin Adequan Dasuquin Pimobendan Additional abdominocentesis was performed following AUS today. Removed ~ 400 mL. Patient weight following centesis= 6.1 kg Suspect ~ 100 mL remains in abdomen.

Abnormal PE/Chem/CBC/UA Results: PE: Cachexic with generalized muscle atrophy. BCS 3/9. Lenticular sclerosis OU and episcleral hyperemia OU. Advanced dental disease. Light pink mm's. Grade IV/VI holosystolic L base murmur. Eupneic. Hepatomegaly palpable. Pot-belly appearance. Suspect ascites. Dermal masses consistent with papillomae and cyst. Stiff on ambulation. 2/25/22 CBC: HGB: 12.3 g/dL (13.4-20.7) Thrombocytosis, 813,000/uL (143,000-448,000) CHEM: Hyperkalemia, 5.6 mmol/L (4-5.4) ALT: 264 U/L (18-121) ALP: 1285 U/L (5-160) GGT: 49 U/L (0-13) AMYL: 1483 U/L (337-1469) LIPA: 317 U/L T4: wnl at 2.0 UA (cysto): USG: 1.016, pH: 6, 1+ proteinuria, inactive sediment FLUID ANALYSIS (ASCITES): TP: 5.8 g/dL Nucleated cell count: 1430/uL FLUID ANALYSIS (ASCITES): Protein rich transudate with a pale basophilic amorphous material. No organisms or evidence of malignancy is observed. Although findings are nonspecific, a pale basophilic homogenous material found in one of the concentrated preparation ** could reflect "white bile" from a ruptured mucocele, especially given the liver enzyme elevation**. Alternatively, this material could represent fibrin. Further correlation with the clinical history, clinical exam findings and other diagnostic assays is warranted.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of – 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.

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 3.2 cm in length. The right kidney measured 3.6 cm in length.

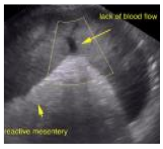
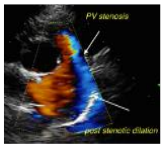
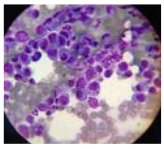
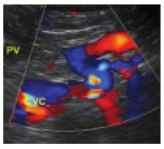
Adrenal Glands

The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 0.61 cm width at the caudal pole and 0.41 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 0.48 cm width at the caudal pole and 0.89 cm width at the cranial pole.

Spleen

The spleen exhibited primarily finely textured and homogenous parenchyma which was hyperechoic to the liver and renal cortical parenchyma. A solitary, well-defined, symmetrical, echogenic nodule was present in the mid medial parenchyma adjacent to the hilus, measuring 0.42 cm. The capsule was

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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 or neoplastic changes were not noted. The echogenic nodules tend to trend benign and are most consistent with benign hyperplasia or myelolipomas.

Liver

The liver exhibited generalized enlargement, primarily owing to large expansive nonhomogeneous to mixed echogenic cystic mass, occupying the majority of the right to caudate liver, measuring at least 12 cm in diameter but potentially larger as the entire mass would not fit into a single viewing window. Hepatic parenchyma was not involved with the mass and exhibited generalized remodeling. Intermittent, mildly expansive isoechoic nodules were present in the mid to left liver, an example measured 2.4 cm in diameter.

The gallbladder was mildly distended in size with mildly hyperechoic congealed yet nonorganized luminal debris, occupying the majority of the gallbladder lumen. The gallbladder walls were overtly normal without evidence of thickening, increased echogenicity or neoplastic criteria. The gallbladder appeared to be displaced caudally and potentially ventrally, owing to the hepatic mass. The cystic and common bile ducts were normal.

Gastrointestinal

The stomach and small intestine were overtly normal, exhibiting visualized and sonographically normal wall layering.

The colon walls presented intact yet prominent wall layering with mild thickened to echogenic submucosa. Non-formed to liquid fecal matter was present in the colon lumen with lumen dilation.

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.

Free Abdomen

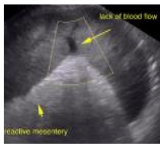
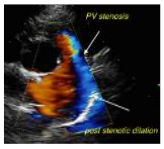
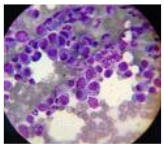
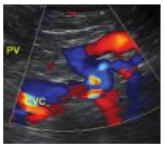
Moderate to marked volume peritoneal free fluid. The free fluid was primarily anechoic. Potential for minor cellular component possible.

Generalized, mildly nonuniform echogenic mesentery was noted. No overt lymphadenopathy noted.

ULTRASONOGRAPHIC FINDINGS

Primary Findings

- Large, expansive nonhomogeneous to cystic right to caudate liver mass- parenchymal remodeling in liver (not associated with the mass) with intermittent, isoechoic, mildly expansive parenchymal nodules
- Gallbladder mucocele- subjectively non-inflamed
- Moderate to marked volume peritoneal free fluid- generalized, mild, non-uniform echogenic mesentery
- Overtly normal gastrointestinal tract, mild colitis pattern

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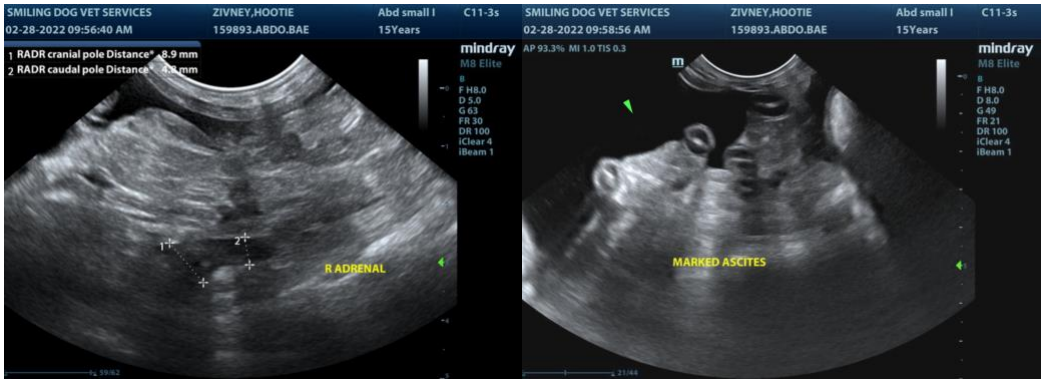
Secondary Findings

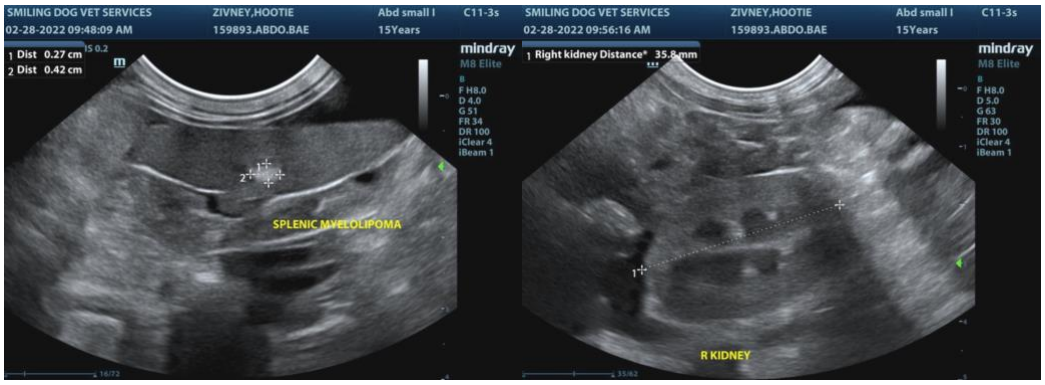
- Benign splenic nodule- consistent with probable myelolipoma

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Although sampling is required for a definitive diagnosis, the large hepatic mass is most consistent with neoplastic criteria, such as hepatocellular or cholangiocellular carcinoma or other. Given the size and position of the mass, likely involving more than one liver lobe and within the area of the portohepatis, complete resection of the mass appears to be precluded.

Overtly, the gallbladder was not obviously consistent with gallbladder rupture given the intact and non-inflamed walls yet potential for the possibility of mild bile leakage or microrupture, in the face of fluid analysis, cannot be definitively excluded. Regardless, surgical options in this case appear to be limited given comorbidities associated with cholecystectomy and in the face of probable hepatic or hepatobiliary neoplasia. Likewise, the possibility of potential regional perihepatic omental seeding cannot be completely excluded.





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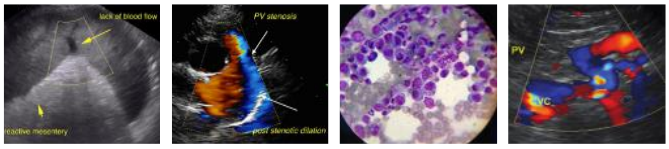

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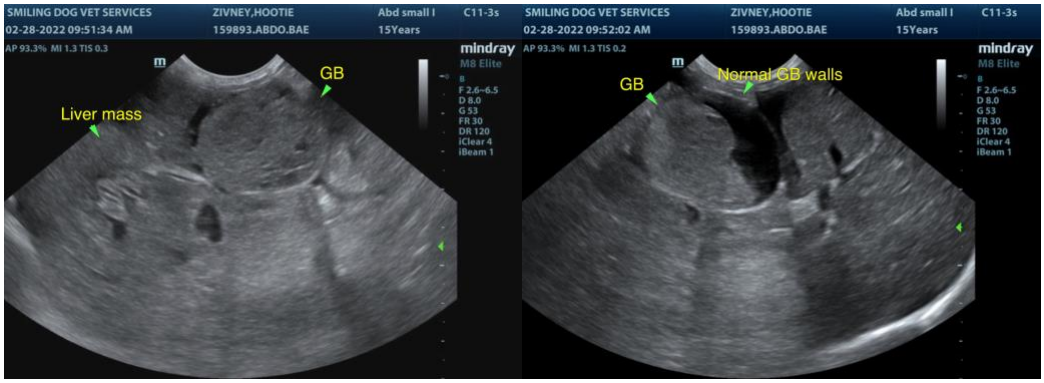

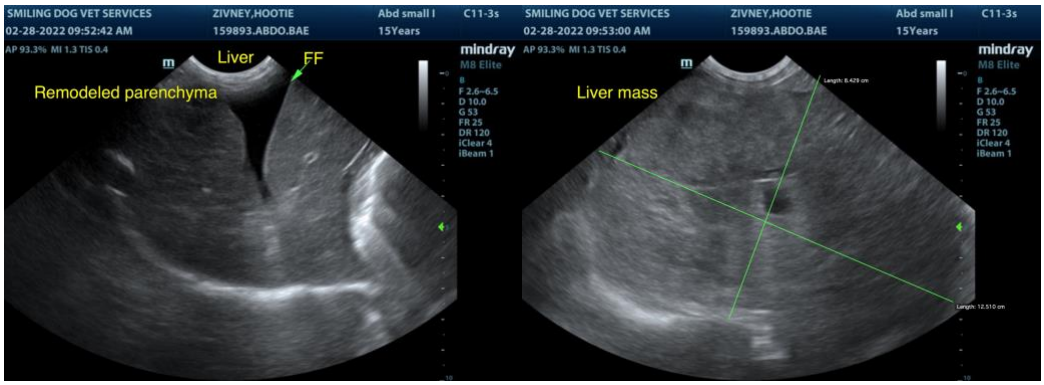

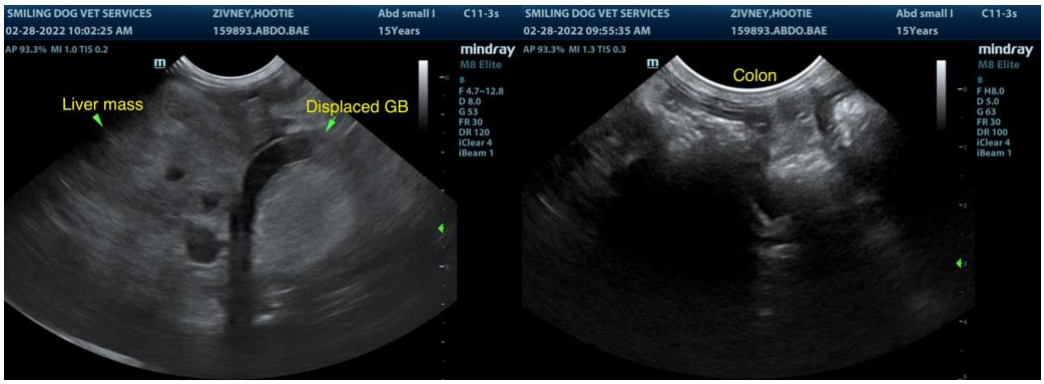

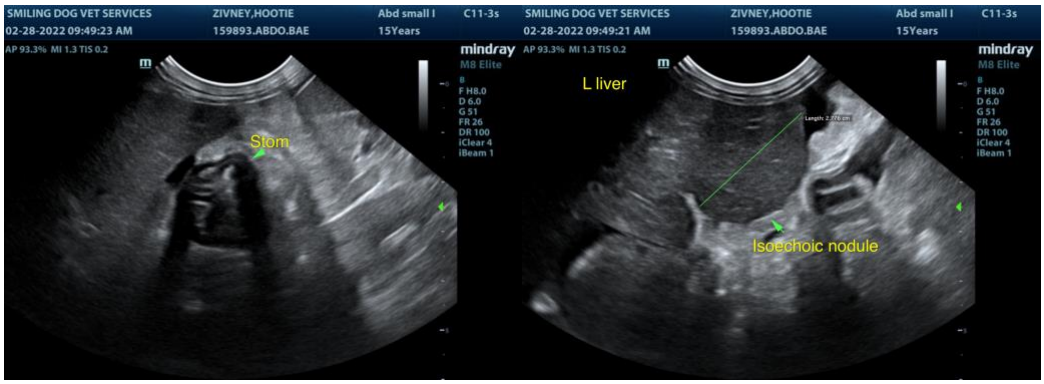

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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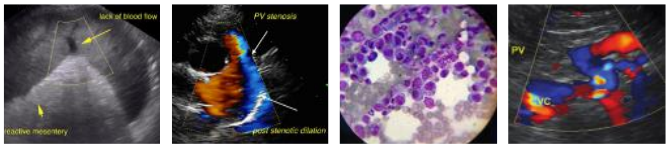

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Thank you for this referral. If the clinical or image interpretation does not parallel your findings or if I can be of any further assistance please contact me.

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