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Clinical Sonography & Telecytology
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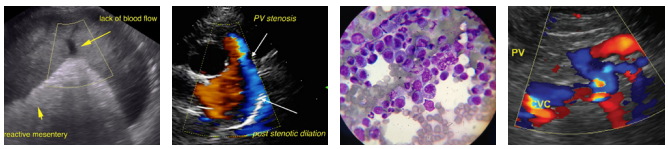

SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT
Bella McDonald

SPECIES
Canine

BREED
Sheltie

SEX
Spayed Female

AGE
11 Years

WEIGHT
29.2 Pounds

INTERPRETED BY
Beth Johnson, DVM DACVIM

IMAGING PERFORMED BY
Jenna Walsh, CVT

HOSPITAL NAME
Four Corners VC

REFERRING VET
Dr. Dull

INVOICE
35458

DATE
2/4/22

PRESENTING CLINICAL SIGNS

Recent acute onset seizure activity, started on oral Keppra 500mg ER PO BID ~1 month ago. Dog was excessively sedated on this dose, so I reduced it to SID in the PM. Dog is less sedated but is getting more lethargic, PU/PD at times, decreased appetite at times. Current Medications Keppra 500mg ER given PO SID in the PM Primary Question/Differential to Be Answered in This Exam Are the adrenal glands enlarged? Does the liver appear normal?
Abnormal PE/Chem/CBC/UA Results: Elevating liver enzymes: (most recently tested 1/27/2022) going back yearly since 2018 elevated ALT=238, (n=10-125) was 178, 50, 44 elevated ALKP=1644, (n=23-212) was 832, 652, 441, 71 elevated Chol=425, (n=110-320) was 284 remainder of panel ran 1/27/2022: Glu=106 SDMA=18 Crea=0.8 BUN=43 BUN/Crea=52 PHOS=4.4 Ca=9.9 TP=7.0 GLOB=3.3 ALB/GLOB=1.1 GGT=0 TBili=0.2 AMYL=908 LIPA=970 T4=0.8 TSH=0.42 Free T4=14.9

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately distended with anechoic contents. No masses, inflammatory changes, echogenic sediment or cystoliths are observed. The urinary bladder, trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.

The right kidney is normal in size (5.5 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed. A small cortical cyst is present.

The left kidney is normal in size (5.6 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed.

Adrenal Glands

The left adrenal gland is large in size (3.12 cm long x 1.7 cm at the cranial pole and 0.8 cm at the caudal pole). It has an irregular capsular contour. There is loss of normal corticomedullary architecture with a cystic appearance, mineralization, and deviation of the surrounding vasculature, but no evident invasion of vasculature.

The right adrenal gland is normal in size (2.0 cm long x 0.50 cm at the cranial pole and 0.70 cm at the caudal pole), but flat in appearance. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

Spleen

The spleen is subjectively normal in size with a normal smooth capsular contour. Parenchyma is appropriately finely textured and homogenous with normal echogenicity relative to surrounding tissue (hyperechoic to liver). No focal nodules or masses are observed. Splenic vasculature appears normal.

Liver

Liver is subjectively enlarged with rounded margins. Parenchyma is heterogenous characterized by multiple poorly defined hypoechoic nodules within otherwise hyperechoic liver parenchyma. Visible vasculature appears normal.

GB is moderately distended with organized, aggregated and centralized non-gravity dependent sludge. Striations of sludge separated by anechoic areas are noted extending from the lumen to the luminal wall. The wall is smooth without visible thickening. There is no evidence of CBD dilation.

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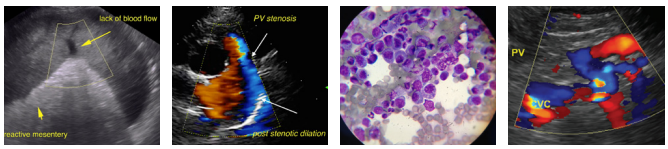

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Gastrointestinal

The stomach wall is normal in thickness (canine < 0.5 cm and feline < 0.4 cm) and layering. The lumen of the stomach is empty with no evidence of obstruction, foreign material or infiltrative disease. Pyloric outflow tract appears patent.

The visible small intestines are normal in wall thickness and layering (canine duodenum < 0.5 cm and feline duodenum < 0.4 cm; other < 0.3 cm). Small intestinal motility appears adequate (1-3 contractions per min). The lumen of the small intestine is empty with no evidence of obstruction, foreign material or infiltrative disease.

The visible colon is normal in wall thickness (< 0.2 cm) and layering. Contents are consistent with normal formed feces and gas.

Pancreas

The pancreatic parenchyma is appropriately isoechoic to surrounding tissue. Visible capsule is smooth and normal in contour. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

Free Abdomen

There is no evidence of peritoneal effusion. No appreciable lymphadenopathy.

ULTRASONOGRAPHIC FINDINGS

- Gallbladder mucocele – GB findings are most consistent with a mucocele.
- Heterogenous liver – Differentials for hepatic changes include both benign steroid (vacuolar) hepatopathy or extramedullary hematopoiesis as well as infiltrative round cell or metastatic neoplasia.
- Small right renal cortical cyst
- Enlarged, irregular, cystic, mineralized left adrenal gland with loss of normal architecture – Most concerning for infiltrative neoplasia such as adrenal cortical carcinoma. Benign differentials are possible and can't be definitively ruled out with ultrasound alone. However, it is considered less likely given the loss of architecture.
- Given the flat appearance of the right adrenal gland, a functional left adrenal tumor causing adrenal dependent hyperadrenocorticism is also likely.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

There is no apparent vascular invasion from the left adrenal mass. An abdominal CT scan could be considered for surgical planning. However, the recommend next steps include surgery for left adrenal gland and gallbladder removal. If not already performed, 3-view thoracic radiographs for further evaluation of any metastatic disease are recommended.

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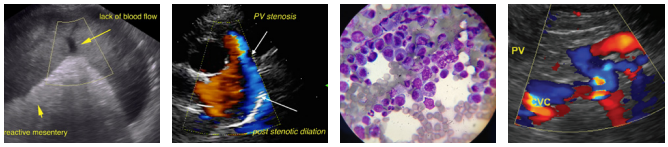

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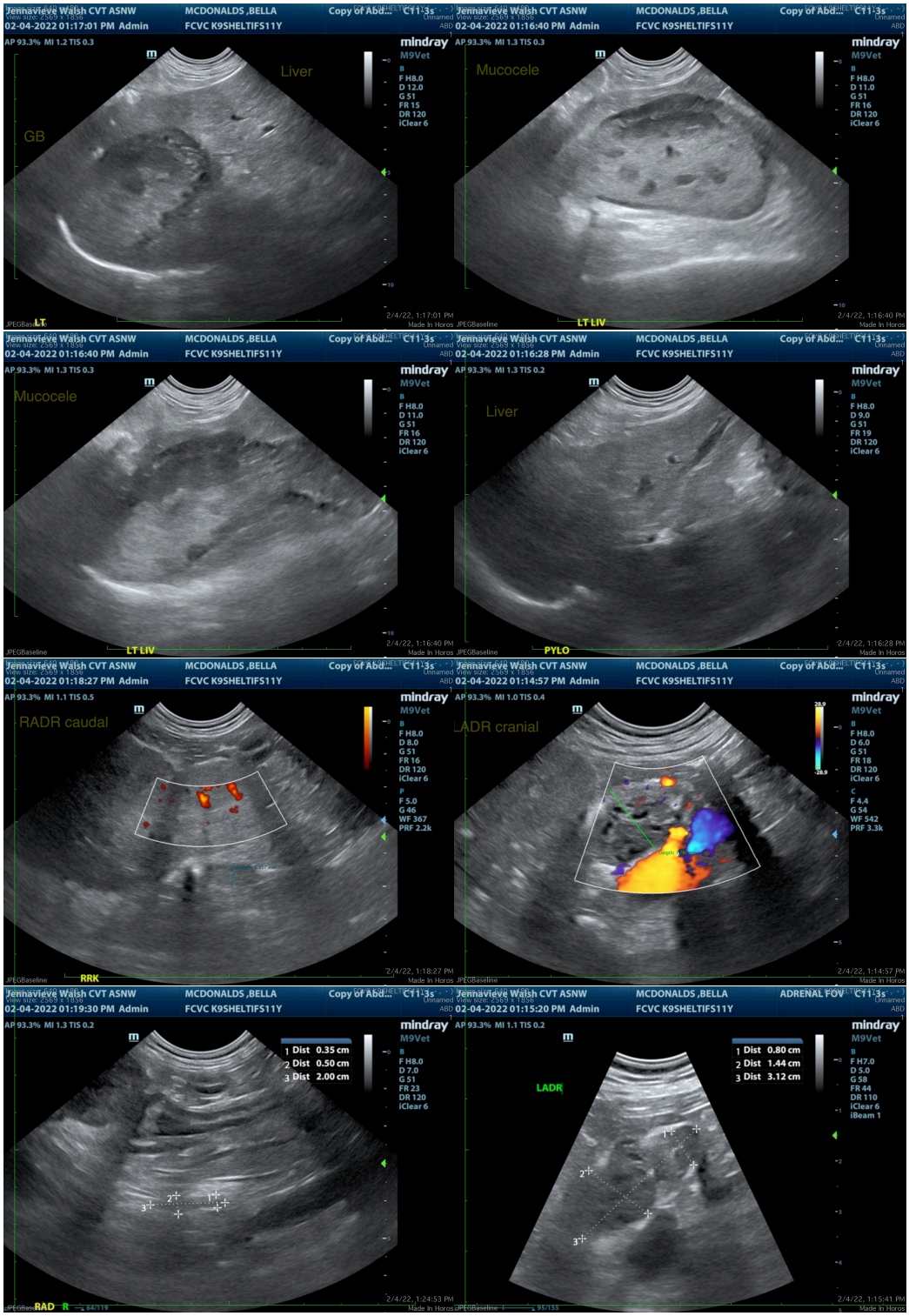

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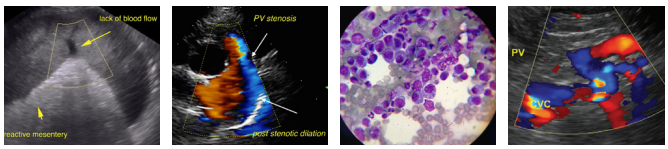

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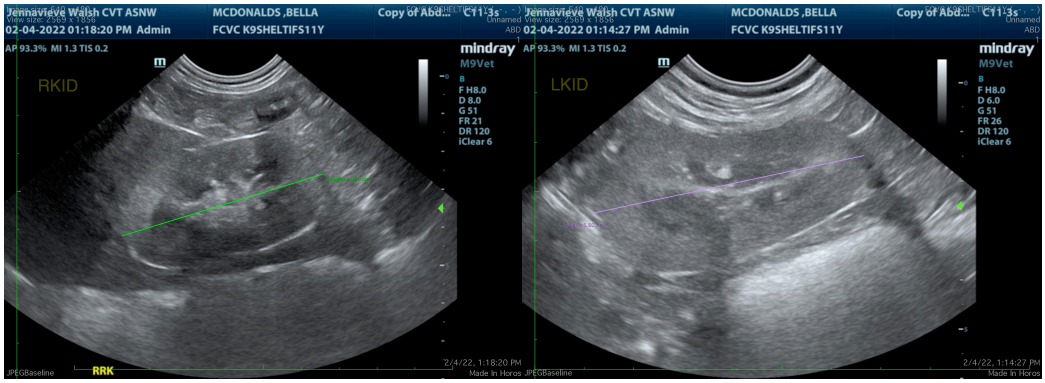

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Beth Johnson, DVM, DACVIM
Beth.Johnson@sonopath.com