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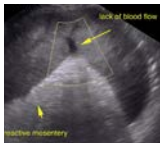
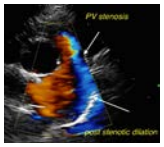
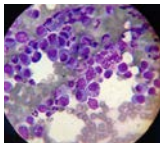
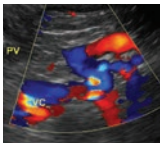
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™

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

PATIENT

Lucie Lou Del Toro

SPECIES

Canine

BREED

Chihuahua

SEX

Spayed Female

AGE

8 Years

WEIGHT

8.3 Pounds

INTERPRETED BY

Beth Johnson, DVM
DACVIM

IMAGING PERFORMED BY

Dr. Ferrer

HOSPITAL NAME

Paseos Vet Center

REFERRING VET

Dr. Michelle Biello

INVOICE

46676

DATE

4/13/23

PRESENTING CLINICAL SIGNS

Presented today for an abdominal ultrasound due to a history of anorexia and periods of disorientation. The patient was treated for hepatic enzyme elevation with Denamarin and Clindamycin. The values continue to increase despite treatment.

Abnormal PE/Chem/CBC/UA Results: BW: CBC: WBC 20.00 (5.05 - 16.76 K/µL) Neutrophils 15.58 (2.95 - 11.64 K/µL) Monocytes 1.41 (0.16 - 1.12 K/µL) CHEM: ALT 434 (8 - 75 U/L) ALP 405 (46 - 337 U/L) Amylase 1,583 (300 - 1,300 U/L) Total Protein 8.0 (4.8 - 7.2 g/dL) Globulin 5.3 (2.3 - 3.8 g/dL)

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 (4.1 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 mineral or infarcts observed. Pyelectasia noted 0.13 cm in the transverse view.

The left kidney is normal in size (3.65 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 mineral or infarcts observed. Pyelectasia noted at 0.16 cm in the transverse view.

Adrenal Glands

The right adrenal gland is normal in size (0.45 cm at the cranial pole and 0.49 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

The left adrenal gland is normal in size (0.50 cm at the cranial pole and 0.37 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

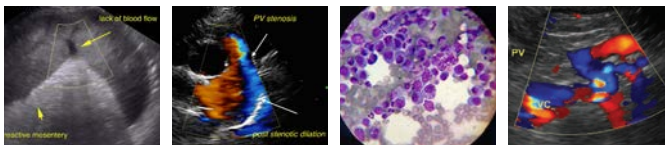
Spleen

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). A 0.81 cm hypo- to anechoic non-capsule disrupting nodule is noted in the mid body. Splenic vasculature appears normal.

Liver

The liver is subjectively normal in size with normal smooth curvilinear peripheral contour. Parenchyma is appropriately hypoechoic to the spleen in echogenicity and appropriately mildly coarse and homogenous in echotexture. Multifocal discrete hyperechoic nodules are noted in the liver. Visible vasculature and biliary tree appear normal without distension or congestion.

The gallbladder is non-distended in size. The wall is smooth without visible thickening. Luminal contents are primarily anechoic. There is no evidence of cystic or common bile duct dilation.



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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 free peritoneal effusion noted in these images.

There is no apparent lymphadenopathy noted in these images.

ULTRASONOGRAPHIC FINDINGS

- **Liver nodules –** Differentials for discrete liver nodules include primarily benign changes such as nodular hyperplasia, fibrosis of an old hematoma, granuloma, myelolipoma etc.; however, while considered less likely, primary hepatic neoplasia, infiltrative round cell neoplasia and metastatic disease can mimic benign lesions and cannot be definitively ruled out.

- **Hypo to anechoic splenic nodule** – likely represents a benign lesion such as a cyst, hematoma, nodular hyperplasia, extramedullary hematopoiesis, etc., however while considered less likely, infiltrative neoplasia can mimic benign lesions, and cannot be ruled out.

- **Pyelectasia –** Differentials for pyelectasia include pyelonephritis, diuresis, congenital malformation or ureteral or lower urinary tract obstruction.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Both the liver and splenic nodules trend in appearance toward benign. Given this patient's liver enzyme increases, however, combined with the reported disorientation, etc., bile acid testing is recommended, as is testing for Leptospirosis. Ultimately, pending results of those tests, liver sampling, beginning with a fine needle aspirate of the liver if patient's coagulation status is appropriate, and ultimately proceeding to a liver biopsy if a diagnosis is not obtained cytology, being sure to include copper level assessment with the biopsy.

Additionally, given this patient's reported hyperglobulinemia, further evaluation could be considered via serum electrophoresis to help better determine infectious disease versus infiltrative neoplasia versus other.

If not recently evaluated, a urinalysis and, if indicated based on urinalysis results, urine culture are recommended. If protein is present in an otherwise quiet sediment, protein quantification with a urine protein to creatinine ration is recommended.

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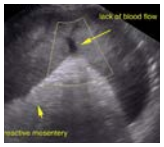
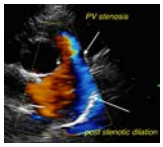
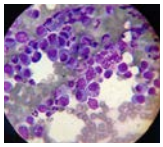
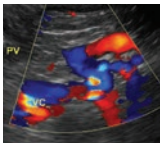

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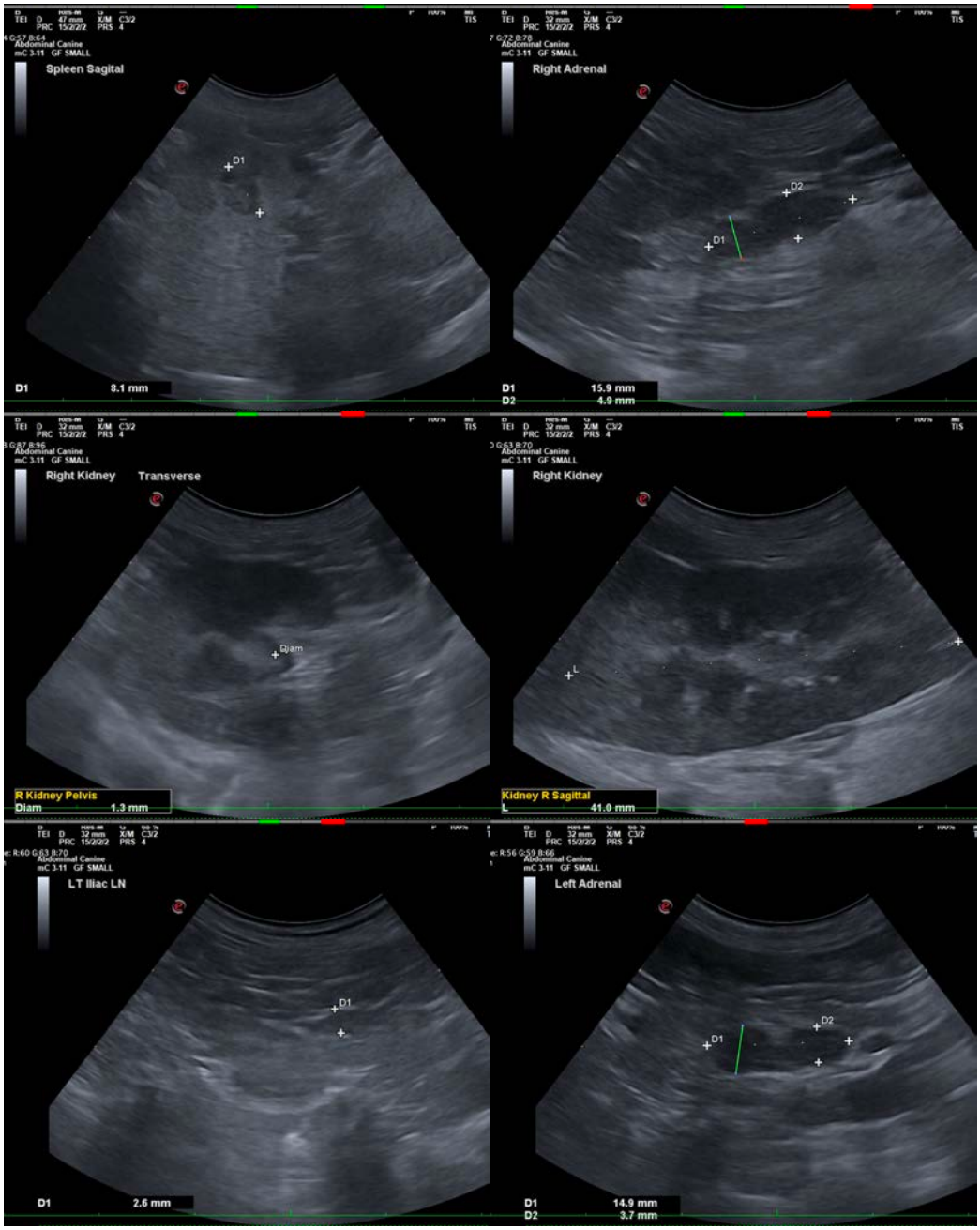

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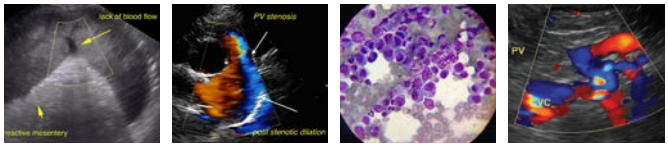

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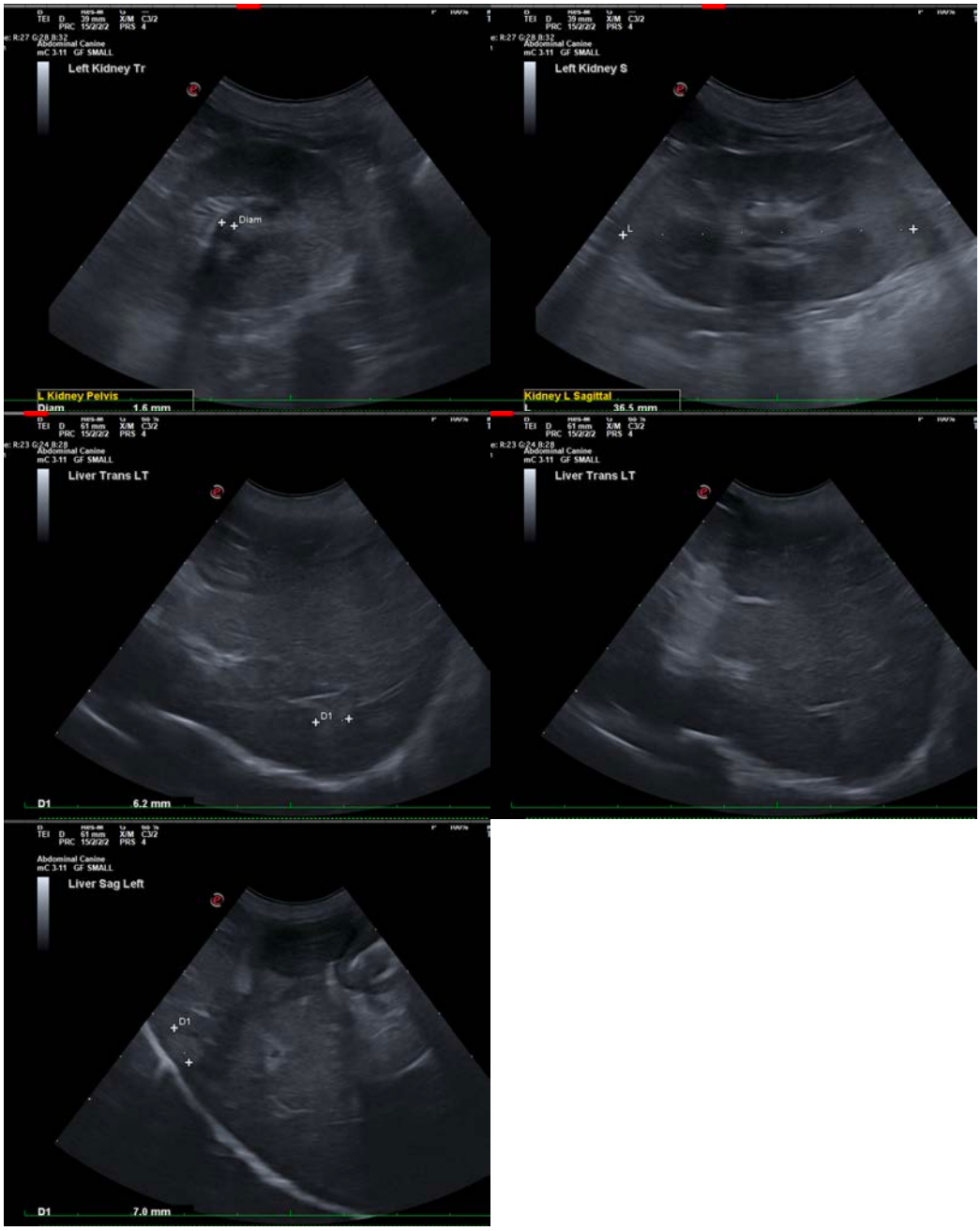

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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