



PATIENT

Juno Anglin

SPECIES

Canine

BREED

Australian Labradoodle

SEX

Female spayed

AGE

12 Years

WEIGHT

12.7 kgs.

INTERPRETED BY

Andrea Nicastro, DVM,
Diplomate ACVIM
(Small Animal Internal
Medicine)

IMAGING PERFORMED BY

Dr. Gumley

HOSPITAL NAME

Cedarview Animal
Hospital

REFERRING VET

Dr. Gumley

INVOICE

11792kk

DATE

9/9/21

PRESENTING CLINICAL SIGNS

History: Recent elevations in liver enzymes; chronic mitral valvular disease; chronic proteinuria.

Abnormal PE/Chem/CBC/UA Results: Potty abdomen, otherwise normal Spleen previously removed due to mass (benign) Had abdominal US performed in 4 Nov 2020 (invoice 42735). FNA taken from L liver lobe

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder, trigone, and pelvic urethra are normal in thickness and the mucosal surface is smooth. The bladder lumen is moderately distended with anechoic urine. No masses, inflammatory changes or calculi are observed. Ureteral papillae and visualized portion of the proximal urethra, visible to a depth of 2 cm, are normal.

The left kidney is normal size (5.09 cm in length); normal shape and architecture with smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with minimal to mild loss of corticomedullary distinction. Trace pyelectasia is present. There is no evidence of nephroliths, infarcts or hydroureter.

The right kidney is normal size (5.25 cm in length); normal shape and architecture with smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with normal corticomedullary distinction. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is normal size (0.67 cm at cranial pole) (0.60 cm at caudal pole) (2.69 cm in length); normal shape; homogenous parenchyma. The glandular echogenicity and detail are unremarkable. Capsule, cortex, and medullary definition are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

The right adrenal gland is normal size (0.77 cm at cranial pole) (0.61 cm at caudal pole) (1.92 cm in length); normal shape; homogenous parenchyma. The glandular echogenicity and detail are unremarkable. Capsule, cortex, and medullary definition are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

Spleen

The patient was previously splenectomized.

Liver

The liver is subjectively prominent in size with slightly rounded/swollen peripheral contours. The parenchyma is diffusely heterogeneous and mottled with numerous, small, ill-defined, hypoechoic nodules throughout the organ. Hepatic vasculature and intrahepatic biliary tracts are of normal volume with no evidence of congestion. The gall bladder lumen is moderately distended. The wall is thin and smooth. Luminal contents are anechoic. The cystic duct is visible and contains a small amount of echogenic debris within the lumen. The common bile duct is normal/not overtly dilated.

Gastrointestinal

The stomach and intestine are free of stasis and exhibit normal peristaltic activity. The gastric lumen is not distended. The gastric wall and pylorus are normal in thickness with a normal layering pattern. The



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pyloric outflow tract is patent. The small intestinal lumen is not dilated. At least one small intestinal segment exhibits hyperperistalsis. The small intestinal wall is normal in thickness with a normal layering pattern and appropriate mural detail. Discreet masses are not identified. The colonic wall is normal. No obstructive disease is noted.

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Pancreas

The right limb of the pancreas is visible/prominent with minimal deviation from the normal peripheral contours. The parenchyma is hypoechoic relative to surrounding omental fat and subtly mottled in appearance. The pancreatic duct is borderline dilated (0.30 cm in diameter). No distinct focal lesions are observed. There is no evidence of peripancreatic effusion.

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Free Abdomen

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The peritoneal cavity is normal. There is no evidence of inflammation or effusion. A prominent lymph node measuring 1.6 cm in length is observed in the right cranial quadrant. The left medial ileac lymph node is also visible (1.86 cm in length). A few prominent mesenteric nodes are also seen.

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ULTRASONOGRAPHIC FINDINGS

Primary Findings:

- Non-specific diffuse hepatopathy. Differentials include inflammatory/immune-mediated disease, infiltrative neoplasia, hepatotoxicosis (i.e., copper) +/- concurrent age-related pathology.
- The prominent abdominal lymph nodes are most consistent with reactive lymphadenitis or lymphoid hyperplasia. Neoplastic infiltration is considered less likely.
- Trace ascites is present. Differentials include low oncotic pressure, increased hydrostatic pressure, or increased vascular permeability. Correlation with clinical findings is recommended.

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Secondary Findings:

- Bilateral, non-specific, age-related renal changes.
- The pancreatic changes are suggestive of age-related remodeling/fibrosis +/- chronic, low-grade inflammation. Correlation with clinical findings is recommended.

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

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1. If there is substantial elevation in the patient's ALT, consider the following diagnostics:
 - a. Leptospirosis testing (i.e., blood and urine PCR; serology) is recommended, particularly if the disease is endemic in the patient's geographic region.
 - b. Cytologic evaluation of the liver should be considered in this patient if clotting status is appropriate. A fine needle aspirate using a 25-gauge needle is recommended. If cytologic evaluation is inconclusive, consider a surgical liver biopsy with aerobic and anaerobic bile cultures and acquisition of additional hepatic tissue samples for copper quantitation.
 - c. If a conservative approach is desired, consider empirical treatment for bacterial cholangiohepatitis (amoxicillin-clavulanic acid, Denamarin Advanced). If no

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improvement in the liver values is seen within 7-10 days of initiating therapy, antibiotics should be discontinued, and hepatic tissue sampling reconsidered. If liver values improve, continue therapy for at least 4-6 weeks and 1 week beyond normalization of the liver values.

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- If the ALP is substantially elevated but the ALT elevation is minimal, consider serial monitoring (i.e., every 3-4 months) of the patient's liver values with repeat abdominal imaging +/- hepatic tissue sampling if liver values increase.

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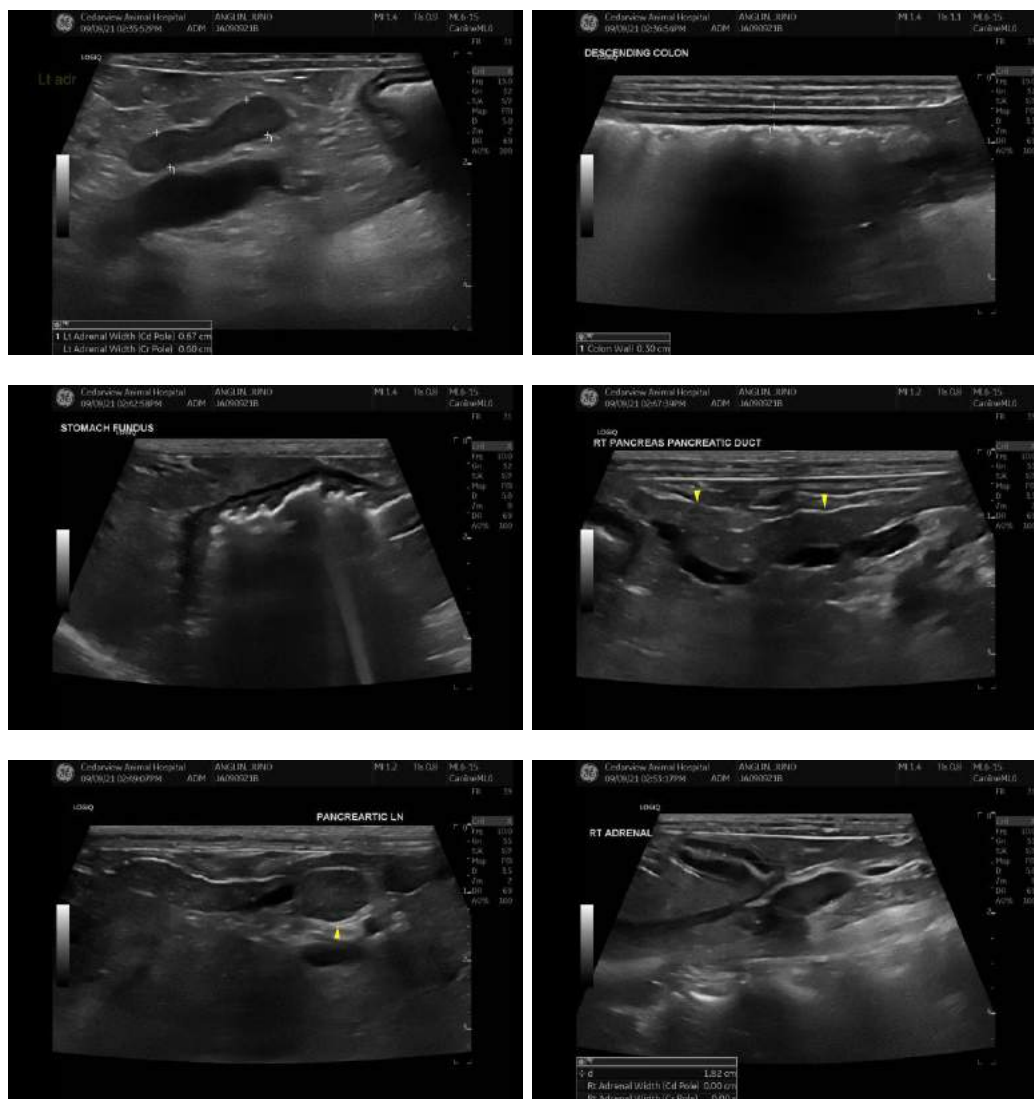
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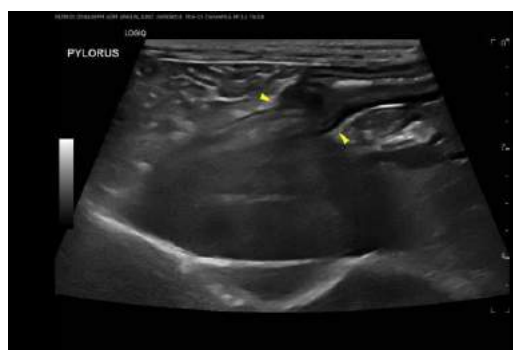
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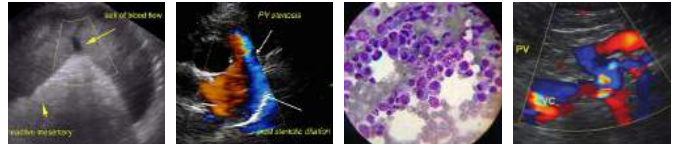
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.



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