


PATIENT PRESENTING CLINICAL SIGNS

Francesca Iann

 Breed: Labradoodle
 History: Elevated liver enzymes. Current med: Denamarin.

SPECIES

Canine

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN
Urinary System
BREED

Labradoodle

The urinary bladder is mildly distended with anechoic urine. The wall in the region of the apex is mildly thickened (up to 0.52 cm) and irregular. The wall tapers to a normal thickness as it ascends toward the cystourethral junction. No cystic calculi are observed. The region of the trigone and the visible portion of the proximal urethra are normal.

SEX

Spayed Female

The left kidney is normal size (5.04 cm in length); normal shape and architecture with smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with mild to moderate loss of corticomedullary distinction. There is no evidence of pyelectasia, nephroliths, infarcts or hydronephrosis. Renal vasculature is normal.

AGE

14 years

The right kidney is normal in size (4.57 cm in length) with a normal shape, smooth peripheral margins, and normal internal architecture. There is mild to moderate loss of corticomedullary distinction. Several hyperechoic shadowing diverticular foci are observed. There is no evidence of pyelectasia, infarcts or hydronephrosis. Renal vasculature is normal.

WEIGHT

37 lbs

Adrenal Glands

The left adrenal gland is enlarged (1.27 cm at cranial pole) (1.10 cm at caudal pole) (2.67 cm in length); with an irregular shape. A 1.20 x 1.57 cm hyperechoic to heterogenous nodule is observed at the cranial pole. In addition, a 0.97 x 0.91 cm hyperechoic to heterogenous nodule is observed at the caudal pole. There is loss of glandular detail. The phrenicoabdominal vein is distended (up to 0.41 cm) and contains echogenic material/tissue within the lumen. There is no obvious invasion of the nodules into the left renal artery or caudal vena cava.

INTERPRETED BY

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IMAGING PERFORMED BY

Kelly Vazquez

The right adrenal gland is enlarged (1.44 cm at cranial pole) (0.85 cm at caudal pole) (2.52 cm in length); with a slightly irregular shape; homogenous parenchyma. A 1.54 x 1.31 cm irregular, hyperechoic to heterogenous nodule is observed at the cranial pole. Glandular echogenicity and detail at the caudal pole are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

HOSPITAL NAME

 Animal General on
 Hudson

Spleen

The spleen is normal in size (1.89 cm in width at the level of the hilus) with a normal capsular contour. There is appropriate echogenicity and echotexture. No focal lesions are observed. Splenic vasculature is normal.

REFERRING VET

Dr. Karen Zelinski

Liver

The liver is subjectively enlarged with slightly swollen peripheral contours. The parenchyma is isoechoic relative to the spleen and subtly heterogenous in appearance. No distinct focal lesions are observed. Vascular and biliary tracts are of normal volume with no evidence of congestion. The gall bladder lumen is moderately distended. The wall is thin and smooth. A small amount of aggregated echogenic partially dependent debris is observed within the lumen. The cystic and common bile ducts are normal/not seen. The portal vein to caudal vena cava ratio is approximately 1:1.

INVOICE

10965

DATE

5/25/22

The gall bladder lumen is moderately distended. The wall is thin and smooth. Luminal contents are mostly anechoic. The cystic and common bile ducts are normal/not seen.

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

Pancreas

The region of the pancreas is isoechoic relative to surrounding omental fat. No obvious parenchymal abnormalities are observed. There is no evidence of regional inflammation or effusion.

Free Abdomen

The peritoneal cavity is normal. There is no evidence of inflammation or effusion. The abdominal lymph nodes are normal/not visible.

ULTRASONOGRAPHIC FINDINGS

Primary Findings

- Left adrenal nodules. There is concern for possible invasion into the phrenicoabdominal vein. Therefore, neoplasia (i.e., adenoma, adenocarcinoma, pheochromocytoma) is suspected, with a lower possibility of benign pathology (i.e., excessive nodular hyperplasia). The right adrenal nodule may represent an emerging tumor or nodular hyperplasia.
- Nonspecific, diffuse hepatopathy. Differentials include inflammatory disease (i.e., chronic active hepatitis, bacterial cholangiohepatitis), hepatotoxicosis, Leptospirosis, reactive hepatopathy, other, +/- concurrent age-related change (i.e., regenerative nodular hyperplasia or vacuolar hepatopathy).

Secondary Findings

- The urinary bladder wall changes could be consistent with cystitis or may be artifactual due to lack luminal distention. Correlation with clinical history is recommended.
- Bilateral, chronic renal changes

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

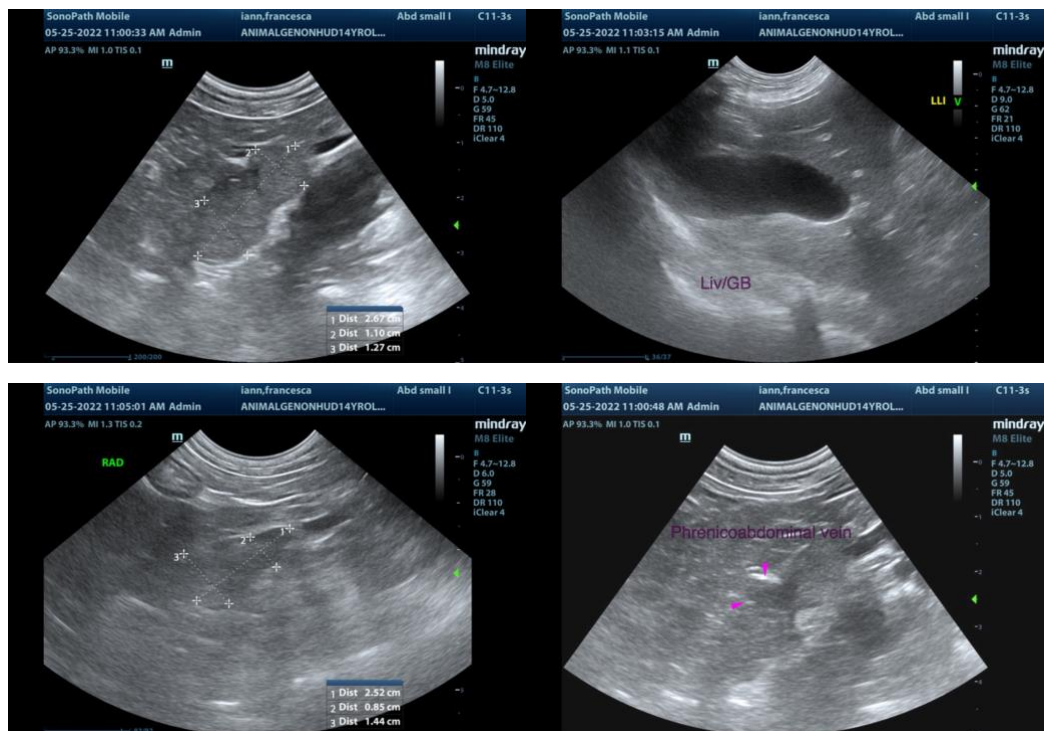
Given the left adrenal changes, consider the following:

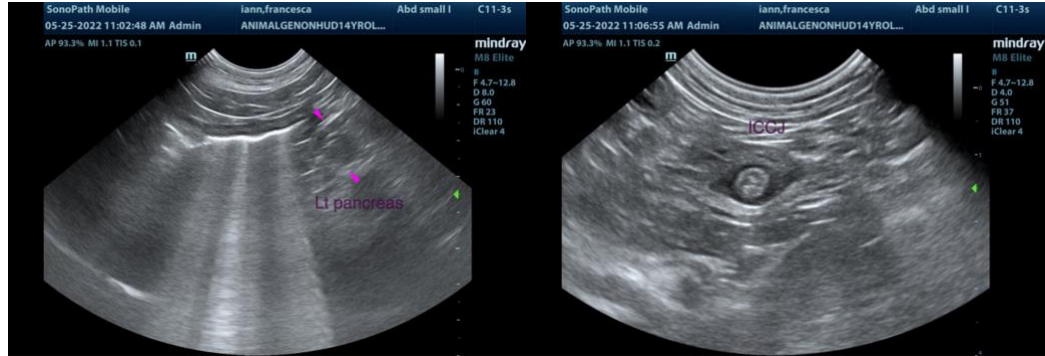
1. Three-view thoracic radiographs to assess for pulmonary metastatic disease
2. Baseline blood pressure measurement

3. UPC (if proteinuria is present)
4. Further testing for a functional tumor via a low-dose dexamethasone suppression test and urine/blood catecholamine levels (Marshfield Laboratory)
5. An abdominal CT scan would be useful in determining the presence of vascular invasion, particularly if an adrenalectomy is desired.

Regarding the liver enzyme elevations, consider the following:

1. Leptospirosis testing (i.e., blood and urine PCR, serology)
2. Hepatic tissue sampling (i.e., fine-needle aspirate or surgical biopsy). If surgery is pursued, acquisition of additional hepatic tissue samples for potential copper quantitation as well as aerobic and anaerobic bile cultures, are recommended
3. If a conservative approach is desired, consider empirical treatment for bacterial cholangiohepatitis (amoxicillin-clavulanic acid, +/-metronidazole, Denamarin). If no 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.





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.

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