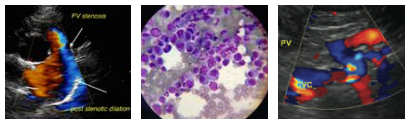
IMAGING PERFORMED BY

IntraPet.com



SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™
1-800-838-4268 info@sonopath.com SonoPath.com

DATE
2/11/22

PATIENT
Daisy Ocheltree

SPECIES
Canine

BREED
Labrador Retriever

SEX
Spayed Female

AGE
9/1/10

WEIGHT
70.2 lbs

INTERPRETED BY
Kathleen Sennello DVM, MS, Diplomate ACVIM (Small Animal Internal Medicine)

HOSPITAL NAME
Festival VC

REFERRING VET
Dr. Beron

INVOICE
95998

PRESENTING CLINICAL SIGNS

History: proteinuria, isosthenuria. P is leaking urine/having accidents.
Current Medications: Doxepin 100mg 1 C BID.
Lab Results: LDDS test normal, no evidence of Cushing's. BW - elevated ALT, AlkP, GGT.
Date of Previous IntraPet Ultrasound: No previous IntraPet scans.
Sedation: Not required to complete full diagnostic ultrasound.
Stat Report: Not requested.
Imaging Performed By: Rachel Brilhart, RDMS.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately distended with anechoic urine. The Bladder wall, trigone, ureteral papillae and visible urethra (to a depth of 2cm) appear normal with no evidence of wall thickening, mucosal irregularities, masses or cystic calculi.

The left kidney has a normal shape and size (8.28 cm). Overall echogenicity is slightly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is mild pyelectasia in the left kidney measuring 0.15 cm. There is no evidence of nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (7.25 cm). Overall echogenicity is slightly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is mild pyelectasia in the right kidney at 0.13 cm. There is no evidence of nephroliths, infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is large in size measuring 2.04 cm at the cranial pole and 1.67 cm at the caudal pole and 4.22 cm in length. It is observed in its normal position cranial to the left renal artery. It is somewhat irregular in appearance in that it is large and there is a focal, 0.98 cm hyperechoic region in the cranial pole. This is most consistent with a small nodule. The remainder of the adrenal gland appears relatively normal and there is no evidence of deformity or vascular invasion.

The right adrenal gland is large in size measuring 1.6 cm at the cranial pole and 1.23 cm at the caudal pole and 3.31 cm in length. It is observed in its normal position cranial medially between the right kidney and the caudal vena cava. It is somewhat irregular in appearance and it is large. A large portion of the cranial pole is hyperechoic in a region measuring 1.5 x 2.36 cm. This hyperechoic area does not deform the adrenal shape at all. There is no evidence of any vascular invasion.

Spleen

The spleen is subjectively normal in size, echotexture is homogenous, and the splenic capsule is smooth with no irregularities. The blood flow through the hilus and splenic parenchyma appears normal. No focal parenchymal abnormalities are visualized.

Liver

The liver is subjectively large in size, and echogenicity with smooth peripheral margins. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary tract appear normal. No focal nodules or cystic lesions are observed. The gallbladder lumen is moderately distended. The wall of the gallbladder has irregular polypoid projections and there is a moderate amount of non-organized echogenic debris. The cystic and common bile ducts are normal/not visible.

Gastrointestinal

The stomach contains minimal luminal contents. It measures at a normal thickness of <0.7cm with some variability due to the presence of rugal folds. The distinction of the gastric wall layers is adequate and there is no impression of reduced peristaltic activity. No masses or focal lesions were observed.

The visualized areas of duodenum, jejunum and ileum have a relatively uniform diameter with minimal fluid distension. Wall thickness is normal. Bowel loops follow a curvilinear path with distinct wall layering maintaining the typical 1:3 muscularis:mucosa layer ratio. The duodenum measured as normal (between 0.3-0.5cm in wall thickness) and the jejunum measured as normal (between 0.2-0.47cm.) Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

The ileocecal junction was visualized and exhibited normal intact wall layering and is subjectively of normal thickness. Sections of colon are visualized with formed fecal material and gas shadowing distally. There is no observed focal or generalized colon wall thickening or loss of layering.

Pancreas

The pancreas is normal and isoechoic to surrounding mesentery. There is no evidence of nodules or cystic lesions. There is no evidence of regional mesenteric inflammation or fluid.

Free Abdomen

Evaluation of the peritoneal cavity did not reveal any evidence of effusion, or subjective lymphadenomegaly. The Medial iliac nodes appear normal and there was no evidence of a caudal aortic thrombus at the bifurcation. The omentum is of normal uniform echogenicity.

ULTRASONOGRAPHIC FINDINGS

PRIMARY FINDINGS:

- Bilateral adrenomegaly with ill-defined, patchy nodules in both adrenal glands. The bilateral adrenomegaly could be consistent with bilateral hyperplasia (e.g., secondary to pituitary-dependent hyperadrenocorticism), bilateral infiltrative neoplasia, inflammatory adrenal disease, other. Correlation with clinical findings is recommended.

- Reduced corticomedullary distinction in both kidneys with bilateral pyelectasia. Mild loss of corticomedullary distinction in both kidneys could be consistent with chronic degenerative disease or interstitial nephrosis. Pyelectasia in both kidneys could be consistent with pyelonephritis, chronic renal disease, secondary to PU/PD or fluid therapy (if applicable), other.

- Large heterogenous liver. The diffuse hepatic changes are non-specific and could be consistent with vacuolar hepatopathy, nodular hyperplasia, inflammatory/immune-mediated disease, fibrosis, extramedullary hematopoiesis, toxic hepatopathy (e.g., copper), infiltrative neoplasia (less likely) or other hepatopathy.

- Mild gallbladder polyps. The significance of the gallbladder polyps and debris is unclear. This could represent an early mucocele, cholestasis, or chronic inflammation, or could be an incidental finding.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Both adrenal glands are large and fairly normal in shape. They both have hyperechoic nodules within the adrenal parenchyma. The significance of this is unclear as this could be a mottled form of hyperplasia or could represent an underlying neoplastic process in both or one of the adrenal glands. Options moving forward would include either medical management or surgical management. If bilateral adrenalectomy is considered I would recommend preoperative CT scan and referral to a veterinary surgeon with access to critical care. If a medical approach is considered I would recommend the following.

- If signs of Cushing's are present, consider adrenal function testing. I prefer an ACTH stimulation test combined with an adrenal panel to the University of Tennessee's endocrine lab to look for atypical adrenal hormones as well as cortisol. (other testing can suffice)

- Recommend blood pressure evaluation-if hypertensive consider testing catecholamine levels for a possible pheochromocytoma

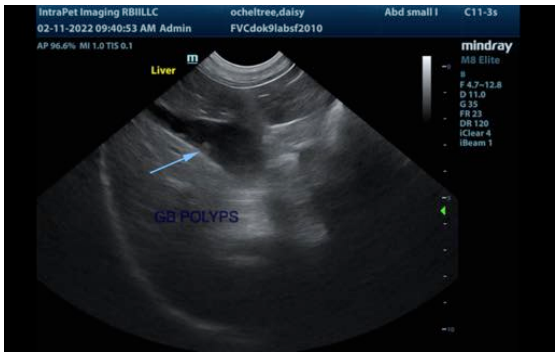
If you cannot demonstrate an overproduction of hormone to treat then surgical intervention may need to be considered.

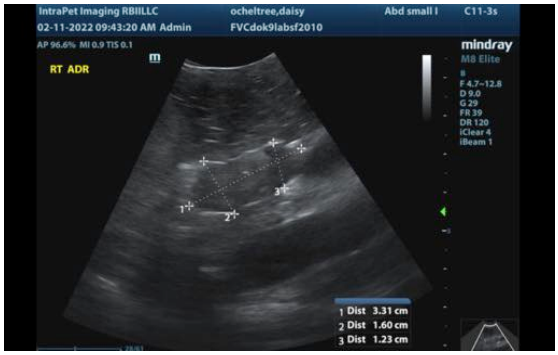
I would consider a liver function test and FNA of the liver. Actual lab work parameters are not included in the history so it is difficult to say if this is consistent with a steroid hepatopathy or something more concerning.

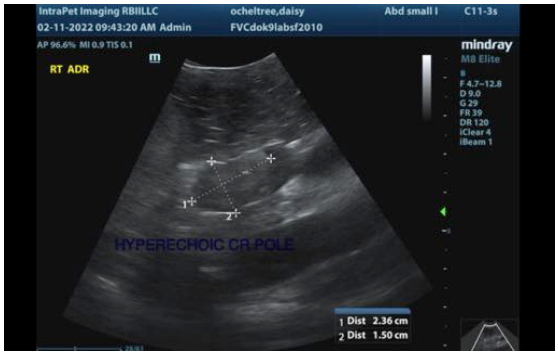
Dogs with Cushing's can have proteinuria particularly if they are hypertensive. If this is a severe proteinuria (numbers not available) I would consider medical treatment for protein losing nephropathy.

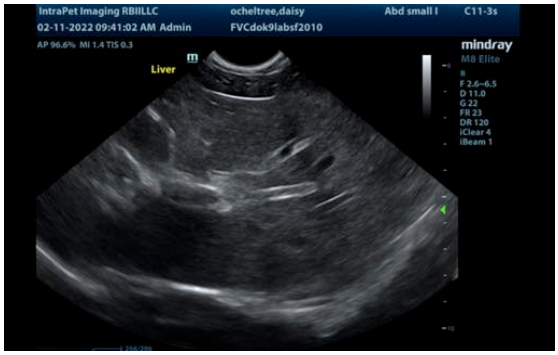
Consider three view thoracic radiographs to rule out concurrent thoracic disease/involvement.

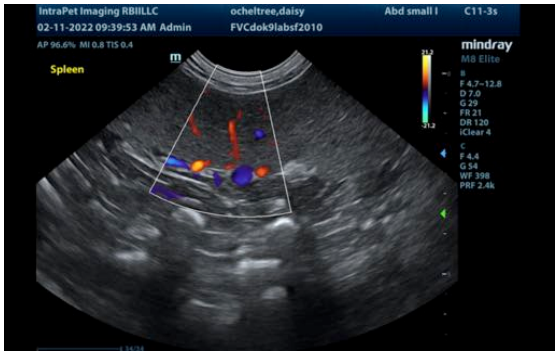
As this is an atypical presentation I would recommend continued monitoring of the adrenal glands with ultrasound to ensure there is not rapid growth or change of the glands indicating a possible underlying neoplastic process. Additionally a FNA of the adrenal glands could be considered with a fine-gauged needle.











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.

Kathleen Sennello DVM,MS, Diplomate ACVIM (Small animal Internal Medicine)
kathleen.sennello@sonopath.com