

**DATE PRESENTING CLINICAL SIGNS**

9/21/22

PATIENT

Lucy Dias

Lucy, FS, 6, presa canario ATO in room: - yesterday lethargic around 4-5 pm - inappetant and wouldn't drink - O noted "bubbles" around mouth - collapsed after walk - vomited once - this AM blood in vomit - hasn't had anything to eat in day 1/2- couldn't walk this AM - P began crying when O touched abdomen - was exposed to plants around house- O may think its a toxicity issue. Presented to rdvm: - Rads: suspicious gas dilated bowel - bw: Lym 0.36, Plt 71, Glu 70, Crea 2.6, Bun 47, Phos 6.9, Alp 342 - noted patient came in in hypovolemic shock

SPECIES

Canine

Current Medications: Buprenorphine, Unasyn, Vitamin K, Dextrose, Cerenia, Baytril, Protonix.
Lab Results: See attached.

Date of Previous IntraPet Ultrasound: No previous.

BREED

Sedation: Not required to complete full diagnostic ultrasound.

Stat Report: Not requested.

Presa Canario

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**SEX**

Spayed Female

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.

AGE

9/20/16

The left kidney is normal in size (9.2 cm). There is intact corticomedullary distinction, but the appearance of the kidney is abnormal in that there is an asymmetrical hypoechoic irregular rim of cortex visualized. This abnormal tissue measures approximately 1.6 cm thick and extends for 8.6 cm. Findings are concerning for a renal mass, although other differentials exist, such as a hematoma.

WEIGHT

94.5 Pounds

The right kidney is normal in size (7.92 cm) with normal corticomedullary distinction. There are non-obstructive cortical mineralizations evident with shadowing areas of the kidney. There is no evidence of focal perinephric inflammation or effusion. There is no evidence of pyelectasia, infarcts or hydroureter. Renal vasculature is normal.

INTERPRETED BY

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

Adrenal Glands

The left adrenal gland is normal in size measuring 0.77 cm at the caudal pole. It is observed in its normal position cranial to the left renal artery. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

IMAGING PERFORMED BY

Rachel Brilhart RDMS

The right adrenal gland is mildly enlarged in size measuring 0.89 cm at the cranial pole, 0.92 cm at the caudal pole, and 4.14 cm in length. It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is somewhat atypical in appearance in that there is an ill-defined hyperechoic region/nodule on the right adrenal gland measuring 2.51 cm x 1.14 cm. Within this region is a more focal hypoechoic region measuring 1.43 cm x 0.98 cm. There is no obvious evidence of vascular invasion. Findings are most consistent with an adrenal nodule.

HOSPITAL NAME

Animal Emergency
Hospital

REFERRING VET

Dr. Nacke-Horney

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.

INVOICE

41477

Liver

The liver is subjectively normal in size, and hypoechoic 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 gall bladder is not thickened and has a smooth mucosal surface. Luminal contents are mild and primarily anechoic. 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 prominent and mottled compared to the surrounding isoechoic mesentery. There is no evidence of nodules or cystic lesions. There is no evidence of regional mesenteric inflammation or fluid.

Free Abdomen

There is scant free abdominal fluid. No lymphadenopathy. The omentum is generally of normal echogenicity.

Other

A brief view of the heart was submitted. No significant pericardial effusion was seen.

ULTRASONOGRAPHIC FINDINGS

- Hypoechoic rim of abnormal tissue around the left kidney – The nature of this tissue is unclear but there is concern for a possible neoplastic lesion.
- Prominent mottled pancreas – The pancreatic changes are most consistent with age-related parenchymal remodeling, potentially secondary to a prior inflammatory episode, early fibrosis or chronic pancreatitis.
- Hypoechoic heterogeneous 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.
- Ill-defined nodule in the right adrenal gland - Right adrenomegaly could be consistent with neoplasia (e.g., adenoma, carcinoma, pheochromocytoma), hyperplasia, inflammation, other.
- Scant free abdominal fluid

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The left kidney appears abnormal with hypoechoic tissue forming a rim in the cortical area of the kidney. This is concerning for a possible atypical mass effect, but other differentials such as a hematoma, etc. are possible.

Recommend urinalysis and culture as well as blood pressure evaluation. Moving forward you could consider a contrast CT scan of the abdomen to obtain more detail in this area. Additionally, if an appropriate angle can be obtained, you could consider a fine needle aspirate of the cortical region of the kidney. Additionally, you could continue to monitor this lesion for progression.

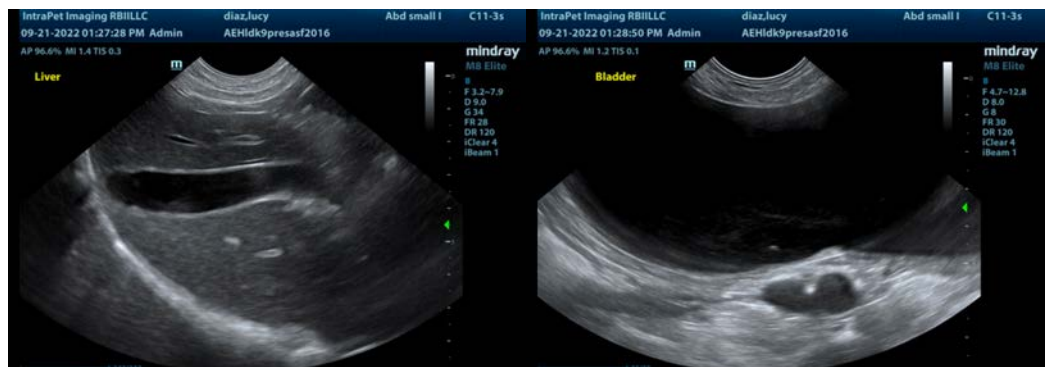
The liver appears somewhat hypoechoic and heterogeneous. If significant liver enzyme elevations are present, you could consider a fine needle aspirate of the liver and a liver function test.

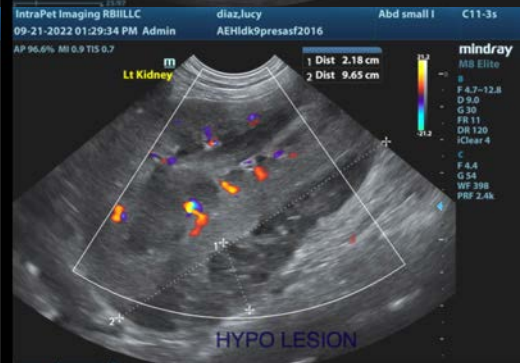
There is a somewhat ill-defined hyperechoic nodule in the right adrenal gland. This mildly deforms the gland but is largely a smooth lesion. This could represent a benign or neoplastic lesion. Additionally, this could be an active hormone secreting lesion or be non-active. Options moving forward include:

- 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)
- If adrenal dependent Cushing's is suspected and supported by adrenal function testing consider medical therapy with lysodren or trilostane or consider surgical removal (recommend referral to a board certified veterinary surgeon and possible pre op CT)
- Recommend blood pressure evaluation-if hypertensive consider testing catecholamine levels for a possible pheochromocytoma
- If no symptoms of Cushing's are present, consider either referral for surgery or continued monitoring with ultrasound (in 3-4 months).
- Many of these nodules can be benign and incidental in nature, unfortunately that is difficult to determine with a single ultrasound.

Recommend three view thoracic radiographs to evaluate for possible concurrent thoracic disease/involvement.

A clear cause for the acute presentation described is not evident. This could be associated with the renal lesion or possibly even a hypertensive crisis associated with the right adrenal mass. Alternately, there could be a metabolic, cardiovascular, etc. type of event, which may not produce significant ultrasonographic changes. Recommend the discussed diagnostics, continued supportive care, and close monitoring.





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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