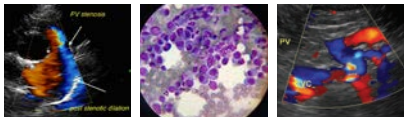
IMAGING PERFORMED BY

IntraPet.com



SonoPath

Clinical Sonography & Telecytology

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DATE

1/12/23

PATIENT

Finley Keifline

SPECIES

Canine

BREED

Golden Retriever

SEX

Neutered Male

AGE

3/19/15

WEIGHT

83 Pounds

INTERPRETED BY

Beth Johnson, DVM DACVIM

HOSPITAL NAME

Alexander AH

REFERRING VET

Dr. Alexander

INVOICE

44193

PRESENTING CLINICAL SIGNS

12/3/22- O reports PU/PD. 12/8/22- recheck exam based on elevated Ca= normal anal sacs bilaterally, normal chest rads. Submitted recheck Ca and ionized Ca

Current Medications: None.
Lab Results: 12/3/22- U/A= UrSpGr-1.008, pH=6, no sediment.
BW= >Ca(15.8). 12/10/22- Ionized Ca=2.35, Ca=17.9, Rectal exam-WNL's, no enlarged peripheral LN's, Chest Rads WNL's. 12/17/22- Malignancy Panel= Ionized Ca-1.82, Ca-16.7, Parathormone-2.00, Parathormone related Protein- 0.0
Date of Previous IntraPet Ultrasound: No previous.
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 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.

Prostate is normal in size, echotexture and echogenicity for a neutered male.

The right kidney is normal in size (6.85 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 pyelectasia, mineral or infarcts observed.

The left kidney is normal in size (7.8 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 pyelectasia, mineral or infarcts observed.

Adrenal Glands

Adrenal glands are small (flattened contour). Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal. The right adrenal gland measures 3.26 cm long x 0.61 cm at the cranial pole and 0.65 cm at the caudal pole. The left adrenal gland measures 3.58 cm long x 0.67 cm at the cranial pole and 0.77 cm at the caudal pole.

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 0.8 cm round, 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. No focal lesions are observed. 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.

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.

The mesenteric lymph nodes are prominent in size with swollen capsular contour. Normal elongated shape (length to width ratio) is maintained. There is no loss of parenchymal detail.

There is no evidence of pericardial effusion noted in these images.

ULTRASONOGRAPHIC FINDINGS

- **Flat adrenal glands** – This can be a normal patient variant and/or a sign of exogenous cortisol administration. If exogenous steroids are not being administered, hypoadrenocorticism (either relative or absolute) should be considered.

- **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.

- **Reactive mesenteric lymph nodes –** infiltrative neoplastic disease cannot be ruled out but is considered less likely.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

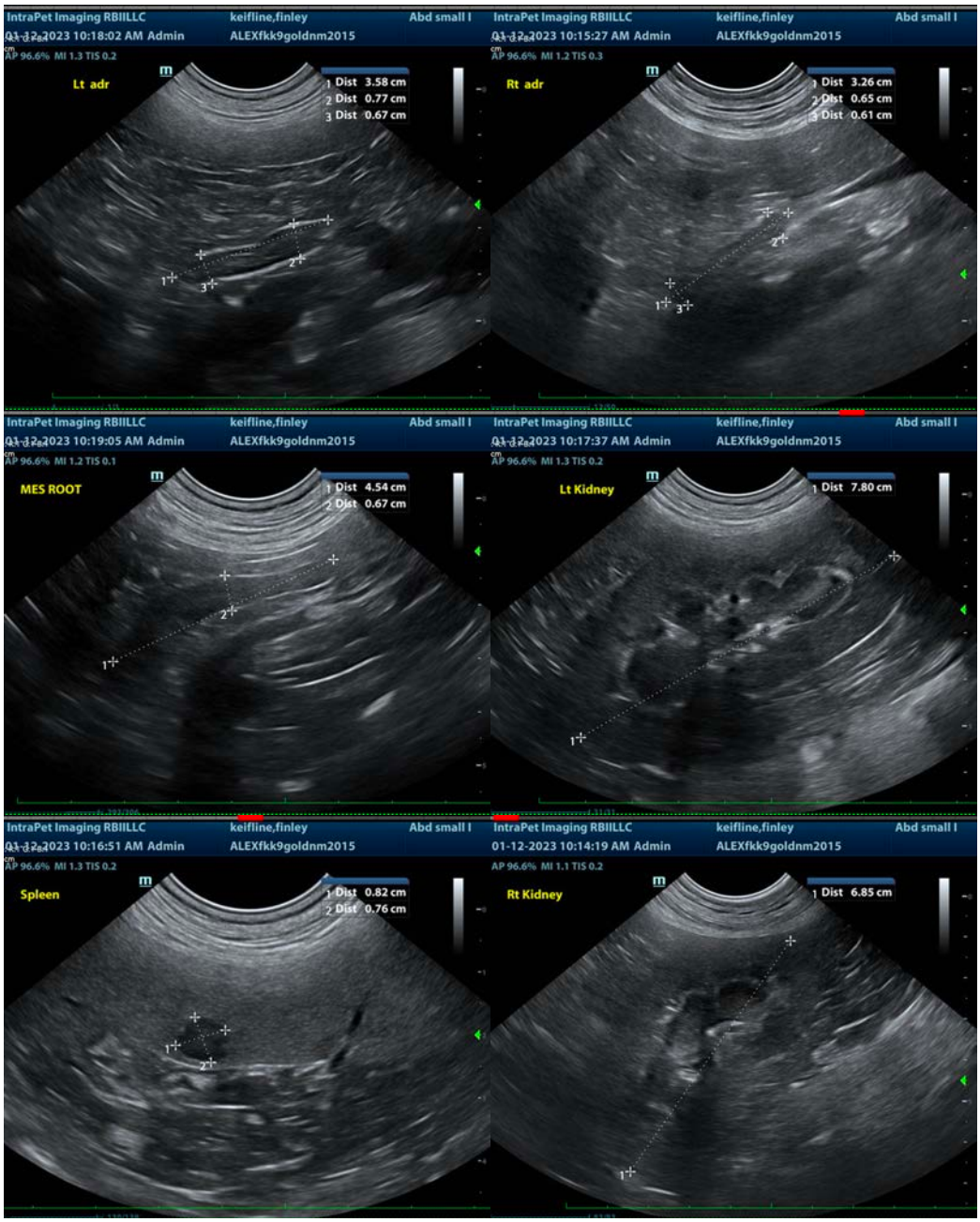
Given this patient's nebulous hypercalcemia workup so far combined with the flat adrenal glands, a baseline cortisol is recommended. If baseline cortisol is less than 2, a full ACTH stimulation test is recommended to rule out hypoadrenocorticism.

While both the mesenteric lymphadenopathy and splenic nodule trend in appearance towards benign, if an underlying cause cannot be determined elsewhere, fine needle aspirates of both pathologies could be considered if patient's coagulation status is appropriate.

Beyond that, pending cortisol results, further investigation for less common causes of hypercalcemia including infectious, granulomatous disease, vitamin D exposure or toxicity, etc. is recommended. Ultimately,

this patient may still have hypercalcemia of malignancy, as not all malignancies produce a high PTHrP. Therefore, consultation with a veterinary oncologist may offer additional next steps.

Additionally, this patient may still have hyperparathyroidism, as the parathyroid hormone was reportedly in a grey zone as well. A cervical ultrasound of the parathyroid glands could be considered. Alternatively, a cervical exploratory to visualize the parathyroid glands and remove large ones is also an options.



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
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