IMAGING PERFORMED BY

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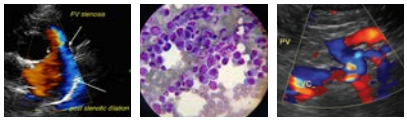


SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™
1-800-838-4268 info@sonopath.com SonoPath.com

DATE

10/27/22

PATIENT

Zeva Winecke

SPECIES

Canine

BREED

Labradoodle

SEX

Spayed Female

AGE

2/18/12

WEIGHT

45 Pounds

INTERPRETED BY

Beth Johnson, DVM DACVIM

IMAGING PERFORMED BY

Andi Parkinson RDMS

HOSPITAL NAME

Everhart Vet Hospital

REFERRING VET

Dr. Key

INVOICE

42446

PRESENTING CLINICAL SIGNS

Pet has had elevated calcium since May. Pet now has elevated UP:C at 2.7 and confirmed ionized calcium elevation 1.6. Pet drinking more.

Current Medications: Benazepril 10mg q 24 h, Ursodiol 250mg - 1/2 BID
Lab Results: 9/22 - Ca 12.2, Ionized 1.6. 8/30/22-alkp 504, Ca- 13.8, UP:C 2.7. 7/1/22- LDDS WNL. 5/12/22: ALKP 537, Ca 12.2, PSL 202
10/1/21 ALKP 401, ALT 182, Ca 11.8, PSL 179. 9/13/21: ALKP 419, Ca 12, phos 1.8.
Date of Previous IntraPet Ultrasound: 6/9/22. See attached.
Sedation: Not required to complete full diagnostic ultrasound.
Stat Report: Not requested.

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.

The right kidney is normal in size (5.93 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 or infarcts observed. Non-obstructive areas of mineralization/nephroliths are noted.

The left kidney is normal in size (5.93 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 or infarcts observed. Non-obstructive areas of mineralization/nephroliths are noted.

Adrenal Glands

Adrenal glands are plump/swollen in size. Normal shape and contour are maintained without evidence of capsular invasion. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal. The left adrenal gland measures 2.5 cm long x 0.86 cm at the cranial pole and 0.72 cm at the caudal pole. The right adrenal gland measures 2.7 cm long x 0.96 cm at the cranial pole and 0.79 cm at the caudal pole

Spleen

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). Multifocal well-demarcated hyperechoic homogenous nodules are noted. Splenic vasculature appears normal.

Liver

Liver is subjectively enlarged (swollen contour) without disruption of architecture. It has a normal homogenous echotexture. Parenchyma is diffusely hyperechoic characterized by less prominent than normal portal vein walls and increased echogenicity relative to the spleen and falciform fat. No focal lesions are observed. Visible vasculature and biliary tree appear normal without distension or congestion.

Gallbladder is moderately distended with anechoic bile as well as suspended and gravity dependent echogenic debris. The wall is smooth without visible thickening. There is no evidence of cystic or CBD dilation. There is no evidence of effusion or inflammation.

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.

There is an approximately 0.70 cm round, hypoechoic structure in the cranial abdomen, believed to be a lymph node. No other lymphadenopathy is appreciated.

Cervical Region

A cervical scan was performed on this dog. Both thyroids were visualized and appear normal. Both thyroids have a slightly enlarged/prominent cranial parathyroid gland visualized, approximately 0.40 cm on the left. The one on the right is slightly bigger and approaches 0.50 cm in some views.

PRIMARY FINDINGS

- Two mildly enlarged parathyroid glands, one on the right, one on the left – This is atypical for primary hyperparathyroidism caused by a parathyroid adenoma and is more consistent with parathyroid hyperplasia possibly from another underlying cause. However, hyperparathyroidism with more than one affected gland/adenoma is possible.

SECONDARY FINDINGS

Abdominal changes very similar to the last study without any significant change:

- **Heterogenous Liver –** These changes are most consistent with benign processes such as nodular hyperplasia, steroid (vacuolar) hepatopathy, extramedullary hematopoiesis or possibly chronic inflammatory disease and less commonly infiltrative round cell or metastatic neoplasia.

- **Hyperechoic splenic nodules –** most consistent with benign myelolipomas. Other differentials such as fibrosis or calcification caused by old hematomas or infarcts, chronic inflammation, granulomatous disease or metastatic disease cannot be ruled out, but are considered less likely.

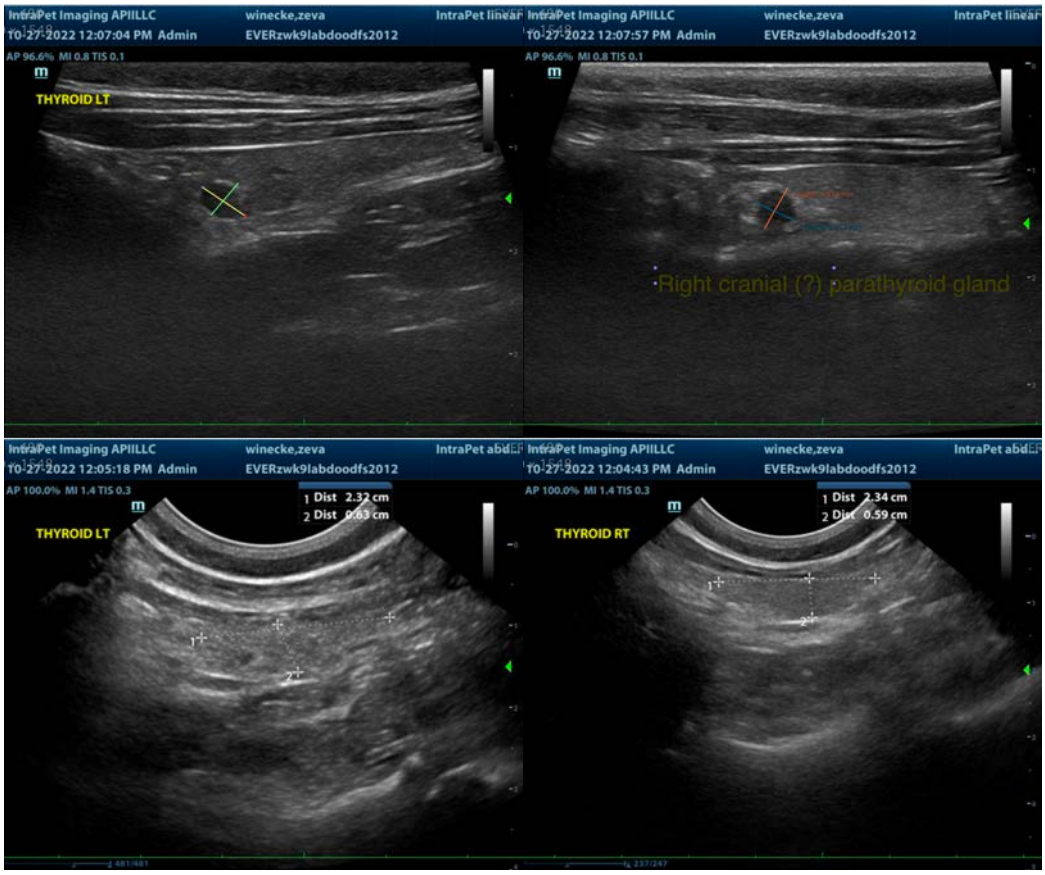
- **Gallbladder debris -** Cholecystic debris is of unknown clinical significance. It can be seen with biliary stasis from fasting or illness. Cholecystic debris is not necessarily related to hepatobiliary disease. Echogenic bile is most commonly an incidental finding in dogs and should be interpreted in combination with clinical signs such as nausea, inappetence, cranial abdominal discomfort and/or

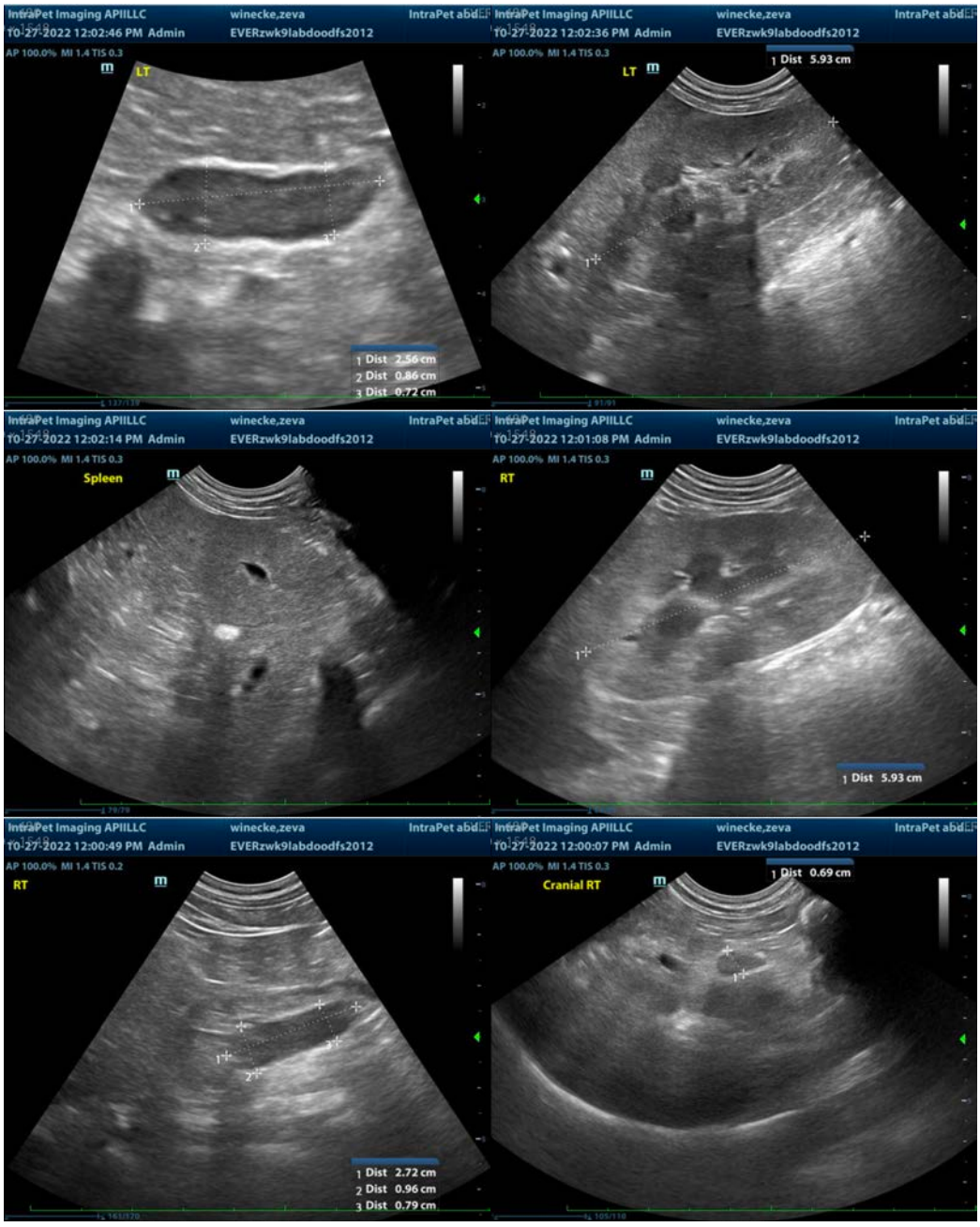
laboratory changes such as increased ALP and/or increased Tbili.

- Non-obstructive nephrolithiasis bilaterally in the kidneys
- **Bilateral adrenomegaly –** consistent with adrenal hyperplasia secondary to pituitary dependent hyperadrenocorticism vs stress or normal variant. Interpret in combination with clinical signs of hyperadrenocorticism.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

If not recently evaluated, a rectal exam and thorough peripheral lymph node palpation is recommended to look for possible causes of underlying hypercalcemia of malignancy, especially given the presence of the mildly enlarged cranial abdominal lymph node. Additionally, a malignancy panel to include PTH/PTHrP and ionized calcium to Michigan State University is highly recommended to help further investigate possible hyperparathyroidism.

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EVERzwk9labdoodfs2012
AP 100.0% MI 1.4 TIS 0.3
LT
1 Dist 2.56 cm
2 Dist 0.86 cm
3 Dist 0.72 cm
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EVERzwk9labdoodfs2012
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Spleen
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RT
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2 Dist 0.96 cm
3 Dist 0.79 cm
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IntraPet abd
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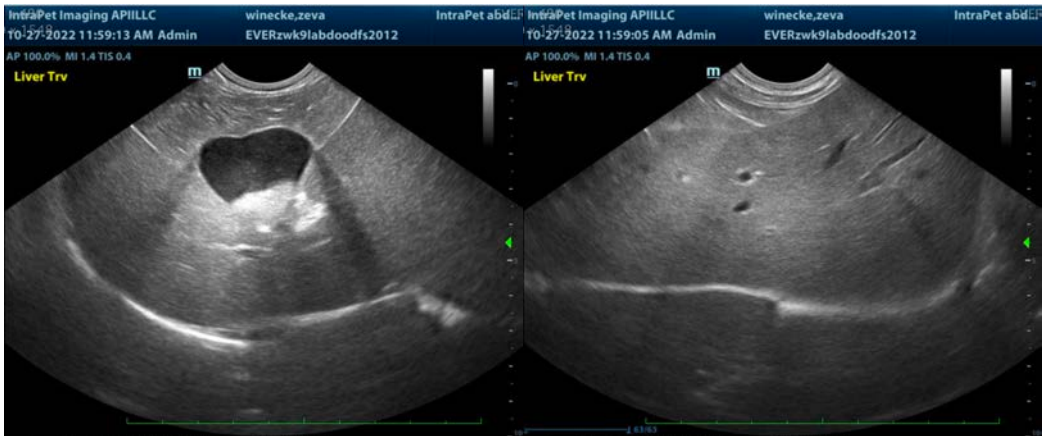
Cranial RT
1 Dist 0.69 cm



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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