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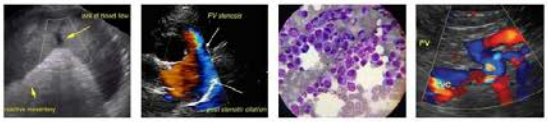

IMAGING PERFORMED BY
pawsonography@gmail.com 530-786-8340

PATIENT

Lucy Johnson

SPECIES

Canine

BREED

Lhasa

SEX

Spayed Female

AGE

13 Years

WEIGHT

35

INTERPRETED BY

R. McKenzie Daniel, DVM, DABVP

IMAGING BY

Loetitia Saint-Jacques, LVT

HOSPITAL NAME

Brighton Greens VH

REFERRING VET

Dr. Robin Janeway

INVOICE

25751

DATE

9/22/21

PRESENTING CLINICAL SIGNS

Species: K9 Gender(altered?) FS Age: 13yr Weight in #: 35.20 Breed: Lhasa Apso History: See previous U/S history from 5/12/21: Abdominal u/s findings and recommendations: -Static left adrenal nodule with newly noted similar appearing right adrenal nodule - suspected adenomas -Static splenic nodules/mild lipomas -Hepatopathy with mildly progressive parenchymal nodules and static focal parenchymal cyst -Stable chronic renal changes with static medullary mineralization -Mild non-specific mucosal speckling - age-related or patient variant liver disease Patient is currently on: amlodipine 2.5mg 1/2TSID Cytopoint 40mg monthly Cyclosporine 50mg PO SID Ketoconazole 50 mg PO SID Ursodiol 250mg 1TSID Gabapentin 100mg BID Physical exam findings: obesity, distended abdomen Abnormal CBC values: WBC 15,600, increased platelets, Abnormal Chemistry Values: ALT 120, ALP 2591, GGT 18, BUN 33 (H), Cr 1.6 (high normal (1.63)glucose 177, PSL 316 T4 WNL,. Abnormal UA Values: UA USG 1.026, 1+ proteinuria Radiograph Findings(email radiographs if available): None performed Reason for Ultrasound: follow up U/S from 3 months ago

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 3.0 cm exhibited normal thickness and tone. Anechoic urine was present in the lumen with no uroliths or sediment. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes were noted.

Normal size and margination were present in the kidneys. A normal 1:3 cortex / medulla ratio was maintained. The medulla and cortices were uniform in texture with some increased echogenicity and loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation was present. Previously noted focal areas of medullary mineral were present. The left kidney measured 5.8 cm. The right kidney measured 5.9 cm.

The area of the aortic trifurcation was free of pathology.

Adrenal Glands

A focal, well defined, hyperechoic nodule was present in the mid to cranial left adrenal gland with mild associated symmetrical capsule expansion. The nodule did not exhibit signs of mineralization or vascular invasion and was similar appearing compared to previous ultrasound. The nodule measured 1.5 cm x 1.1 cm in diameter. The overall left adrenal gland measured 1.1 cm at the cranial pole and 0.60 cm at the caudal pole. This is likely suggestive of a benign process such as adenoma, granuloma or myelolipoma if no clinical signs of adrenal disease are currently present. Potential emerging aggressive neoplasia cannot be ruled out. Therefore, recheck ultrasound every 3-6 months is suggested to monitor for changes in size or appearance. A screening blood pressure is suggested.

The right adrenal gland exhibited progressive increased size with non-homogeneous to mineralized parenchyma. The right adrenal gland measured 3.0 cm x 2.1 cm. Overt evidence of vascular invasion associated with the right adrenal gland into the caudal vena cava was not evident. However, potential for phrenicoabdominal vein invasion cannot be excluded.

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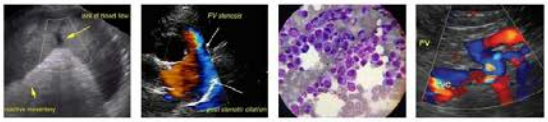

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Spleen

The spleen exhibited primarily finely textured and homogenous parenchyma which was hyperechoic to the liver and renal cortical parenchyma. Multifocal, well-defined, symmetrical, variably sized echogenic to non-uniformly hyperechoic nodules were present throughout the cranial to caudal parenchyma. Example measured 1.5 cm diameter. The capsule was smooth and regular without apparent expansion. The splenic vasculature at the hilus was normal in volume with no evidence of congestion or thrombosis. Acute to chronic inflammatory or neoplastic changes were not noted. The echogenic nodules tend to trend benign and are most consistent with benign hyperplasia or myelolipomas.

Liver

The liver was mildly enlarged. The parenchyma of the liver was subjectively increased in echogenicity compared to the spleen and renal cortices. The echotexture of the liver parenchyma was uniform with a mild coarse echotexture. The previously noted intermittent to multifocal, subtly hypoechoic nodules were present. Example of liver nodule measured 1.3 cm diameter. Previous noted static parenchymal cyst was present in the mid parenchyma. The capsule of the liver was symmetrical in margination. The hepatic and portal vasculature were normal in appearance without signs of congestion. The gallbladder was non distended in size with mild to moderate, echogenic, non-organized debris. The cystic duct and common bile ducts were normal without evidence of dilation.

Gastrointestinal

The stomach presented intact wall layering with a normal wall layer ratio. The lumen of the stomach was empty with no signs of ileus, obstruction or foreign material.

The small intestine presented intact wall layering with 1:3 muscularis/mucosa ratio. The lumen of the small intestine was empty with no signs of ileus, obstruction or foreign material.

Normal visible colon wall layers were present with apparent formed feces in lumen.

Pancreas

The parenchyma of the left limb, body and right limb of the pancreas presented isoechoic to the adjacent omental fat. A normal curvilinear capsule contour of the pancreas was present. The visible pancreatic duct was normal. No signs of active inflammation or neoplastic disease was evident.

Free Abdomen

No overt lymphadenopathy or peritoneal effusion was present.

ULTRASONOGRAPHIC FINDINGS

- Static chronic renal changes with medullary mineralization
- Similar appearing left adrenal nodule
- Right adrenal mass with parenchymal mineralization

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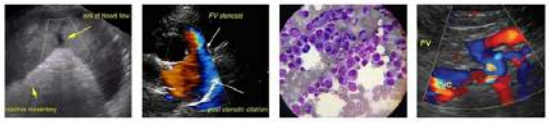

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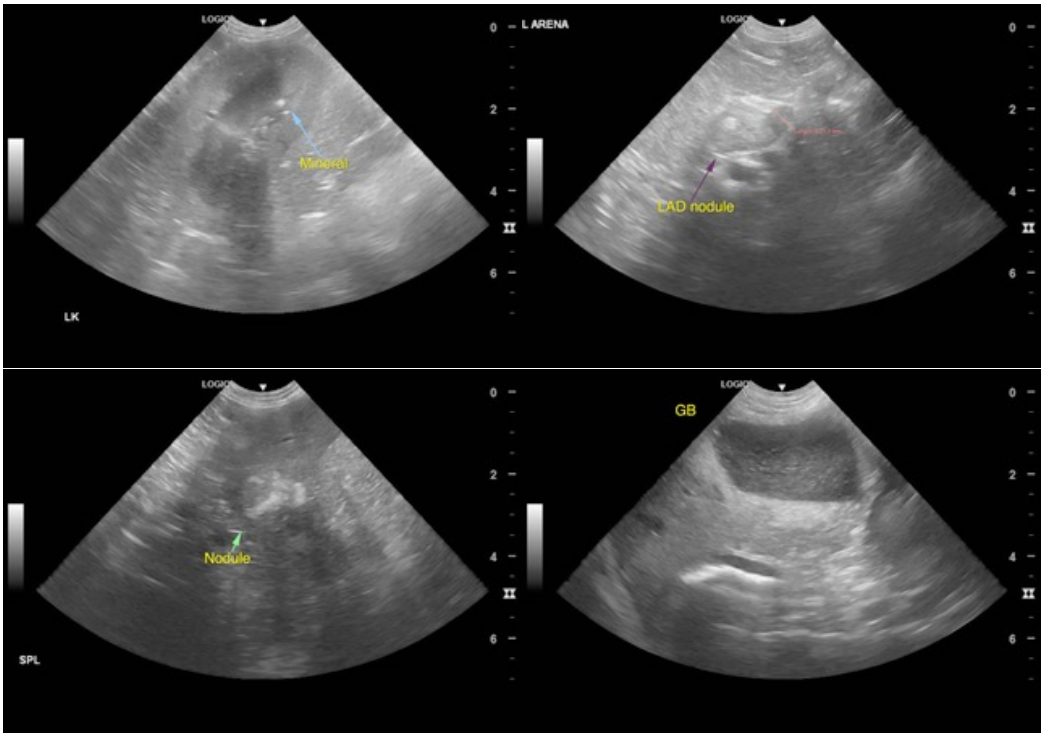
- Chronic hepatopathy with hypoechoic parenchymal nodules and focal parenchymal cyst – subjectively static compared to previous ultrasound.
- Probable benign splenic nodules – suggestive of benign myelolipomas, hyperplasia, or potential chronic infarcts or emerging mineralization.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The primary finding at this time is the progression of the previously noted emerging right adrenal nodule into a right adrenal mass exhibiting parenchymal mineralization. The progressive right adrenomegaly in addition to the parenchymal mineralization is strongly suggestive of a neoplastic process such pheochromocytoma, adenocarcinoma, or other with potential for mixed pathologies. Screening blood pressures is recommended.

The hepatic nodules may still indicate benign process such as nodular to regenerative hyperplasia, hematopoiesis, or small granulomas. However, given the strong potential for right adrenal neoplasia, potential for metastatic disease to the liver cannot be excluded. CT assessment of the right adrenal gland for further clarification as well as assessment of surgical resectability and/or non-obvious metastasis is suggested. Screening hepatic FNA could also be considered for cytology.

Further renal staging to include urine C/S and protein: creatinine ratio on sterile urine sample may be considered. Sonographic monitoring of the right adrenal gland as well as previously noted changes would be a more conservative approach.



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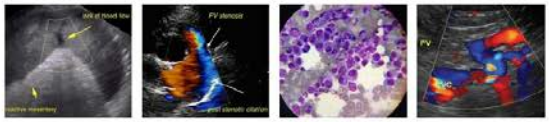

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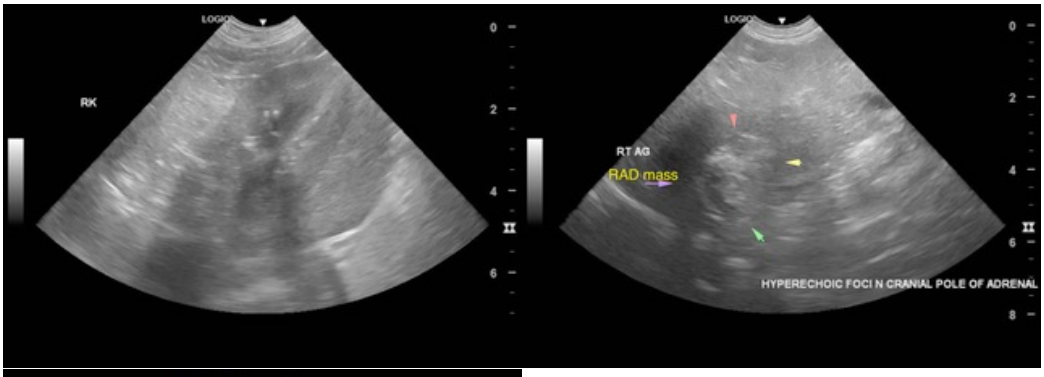

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

R. McKenzie Daniel, DVM, DABVP (Canine / Feline Practice)
info@SonoPath.com