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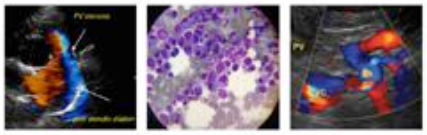

SonoPath
Clinical Sonography & Telecytology
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PATIENT

Finnegan Keydel

SPECIES

Canine

BREED

Labrador Retriever

SEX

Neutered Male

AGE

10 years

WEIGHT

89 Pounds

INTERPRETED BY

Lisa Carioto, DVM, DVSc, Diplomate ACVIM

IMAGING PERFORMED BY

Amy Mayhew LVT

HOSPITAL NAME

SVS Imaging Michigan

REFERRING VET

Oxford VH

INVOICE

1156

DATE

4/18/22

PRESENTING CLINICAL SIGNS

Patient came in for annual exam, blood work ALP 2124, previous year was 1599
Abnormal PE/Chem/CBC/UA Results: Please see attached BW. Exam findings and abnormal lab values: ALP 2124, UCCR urine cortisol 10.4 urine creatinine 83.6, Low Dose Dex test Pre dex 2.0, 4 hour post dex 1.4, 8 hour post dex 1.1Equivocal results on the LDDS, options - ACTH Stim or abdominal ultrasound, as Finnigan is not showing clinical signs of Cushing's but has an extremely elevated ALP, the ultrasound is advised, owner would like to proceed with ultrasound ALP 2124, has been over 1000 the last two years. 1/29/21 was 1599, 1/21/19 was 1022

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is well distended. A small amount of echogenic debris is present within the bladder lumen. The wall is not thickened, but very mildly irregular at the apex. No abnormalities are present with the trigone or the proximal urethra, and there is no evidence of cystoliths, polyps or a mass. Based on the appearance of the urinary bladder, a bacterial cystitis is may be present. A urinalysis, +/- urine culture and sensitivity, is/are recommended.

The prostate is homogenous and within normal limits for a neutered male.

Kidneys

The **left** kidney measures 7.50 cm. The capsule is smooth, however, a mild loss of the normal definition of the cortico-medullary junction is present. Mild mineralization of the cortex, diverticulae and pelvis are present, without evidence of nephroliths or pyelectasia. The surrounding mesentery is not hyperechoic.

The **right** kidney measures 8.14 cm. Findings are similar to the left kidney

Aortic Bifurcation/Trifurcation

No abnormalities observed.

Adrenal Glands

The **left** adrenal gland measures 0.81 cm at the cranial pole, 0.82 cm at the caudal pole. Although it is enlarged, no abnormalities are noted with the gland's overall architecture, echogenicity or echotexture. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

The **right** adrenal gland measures 0.79 cm at the cranial pole, 0.79 cm at the caudal pole. It is also mildly enlarged. Its cranial pole is in the form of a well circumscribed nodule. No abnormalities are noted with the nodule or the gland's overall architecture, echogenicity or echotexture. That is, the nodule has the same echogenicity and echotexture as the rest of the adrenal. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

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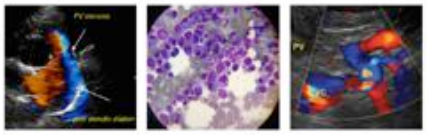

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Spleen

The spleen is within normal limits in size, architecture, echotexture, and echogenicity. The capsule is smooth. No abnormalities are observed with its vasculature, i.e. congestion and thrombi are not identified.

Liver

There are no obvious signs of hepatomegaly and its borders are smooth, but mildly rounded. The liver's echotexture is homogeneous. It is, mildly hyperechoic. Perivascular cuffing is observed, which appears to be associated with fat, although mineralization (without shadowing) and mild inflammation cannot be excluded. No abnormalities are observed with the hepatic vessels visualized.

Mid liver, subcapsular , a 2.32 cm (diameter) x 3.89 cm (length) subtle hypoechoic area is observed, with a couple of smaller hypoechoic nodules within it. The still images show a hyperechoic region surrounding it, however, this is artifact due to gas in the surrounding GI tract. This hypoechoic region may be associated with a previous hepatic insult and nodular hypoplasia and an area of regeneration. Target lesions are not present, nor are there other signs of neoplasia.

The gallbladder wall is within normal limits in thickness. It may be slightly hyperechoic. A small amount of free floating echogenic material is identified within the GB. No abnormalities are observed surrounding the GB. The portions of the cystic and/or common bile ducts observed are not dilated or tortuous, i.e. there are no signs of an obstruction.

Gastrointestinal

The gastric wall is within normal limits in thickness and the wall layers are well defined. No obvious abnormalities are observed with its peristalsis.

The small intestinal wall thickness, including the duodenum, is within normal limits and the definition of the wall layers is preserved. Abnormally dilated loops of bowel are not observed.

The colonic wall is not thickened and mural detail is considered normal.

There are no obvious signs of a mass, foreign body, infiltrative disease or an obstruction in the gastrointestinal tract.

Pancreas

Both the left and right limbs of the pancreas have a mildly coarse echotexture and are mildly heterogeneous. Multiple hypoechoic focal nodules of variable size are dispersed haphazardly throughout the parenchyma, in addition to hyperechoic foci and ill-defined "patches". There is no evidence of hyperechogenicity of the surrounding mesentery, i.e., signs of active pancreatitis are not present.

Other:

Lymph nodes No abnormalities are observed.

Abdominal effusion is not visualized.

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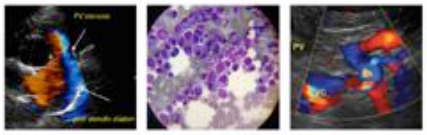

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ULTRASONOGRAPHIC FINDINGS

- The subtle hypoechoic area with a couple of smaller hypoechoic nodules within it may be associated with a previous hepatic insult with subsequent nodular hypoplasia and an area of regeneration. Target lesions are not present, nor are there other signs of neoplasia.

- Subjectively, the gallbladder wall may be slightly hyperechoic and there is a small amount of gallbladder sludge present. These findings, In addition to the mildly hyperechoic liver, may be compatible with sub clinical cholecystitis and cholestasis, respectively. Although the presence of gall bladder sludge is often clinically insignificant, dogs may show clinical signs of gastroesophageal reflux disease as a result of the sludge, therefore, obtaining a history regarding signs of GERD from the client is suggested. Treatment with ursodeoxycholic acid or for GERD may be required depending on the patient's history.

- The ultrasound findings of bilateral adrenomegaly are suggestive of adrenal hyperplasia secondary to pituitary dependent hyperadrenocorticism, however, stress (chronic illness) cannot be excluded. The nodule at the cranial pole of the right adrenal gland may be due to adrenal hyperplasia or the development of a benign adenoma. The nodule does not have criteria suggestive of malignancy. Although controversial, depending on with whom you speak, treating hyperadrenocorticism without clinical signs is not suggested unless the patient has proteinuria or is suffering from hypertension. A sonographic evaluation of the adrenal glands is suggested depending on Finnigan's clinical signs.

- Presence of a very mildly irregular mucosa of the urinary bladder at the apex. A urinary tract infection cannot be excluded

- The pancreatic changes are likely age related, for example, nodular hyperplasia and areas of fibrosis. Fibrosis may be secondary to age, as well as previous episodes of pancreatitis. Nodular hyperplasia is often associated with age related changes. Signs of active pancreatitis or neoplasia are not appreciated.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

A fine needle aspirate of the hypoechoic area of the liver may be performed, in addition to other regions of the normal appearing liver

Another option is to re-evaluate the lesion and the adrenal glands sonographically in three to four months to monitor the evolution of the abnormalities.

A urinalysis,+/- culture and sensitivity, is/are recommended.

Although indiscriminate use of antibiotics is not recommended, empirical treatment for cholecystitis, cholangitis/cholangiohepatitis may be considered and a reevaluation of the hepatic enzyme activities may be performed four to six weeks (while still receiving the antibiotics).

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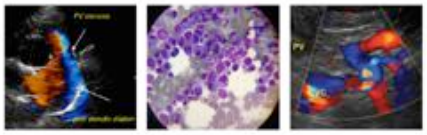

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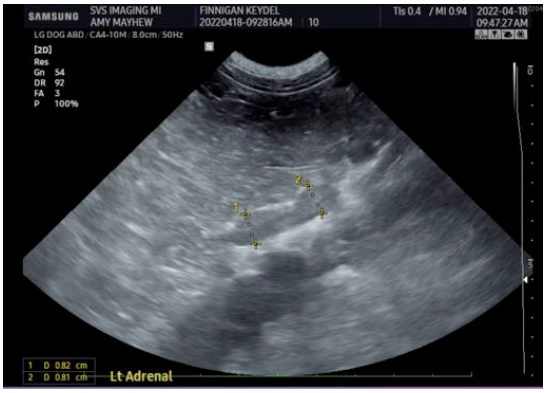

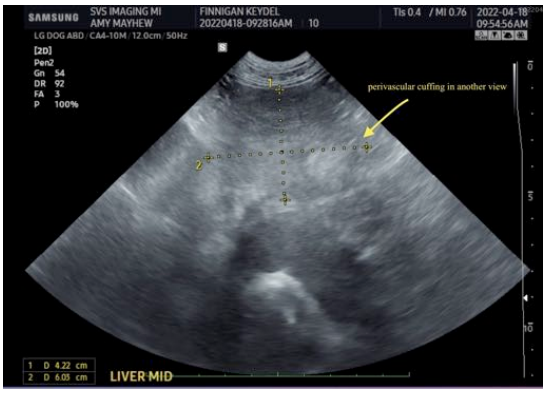

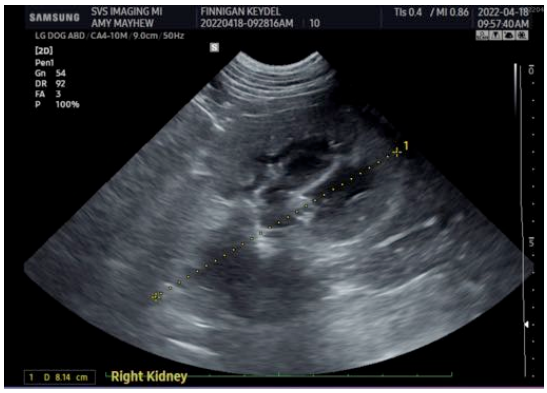

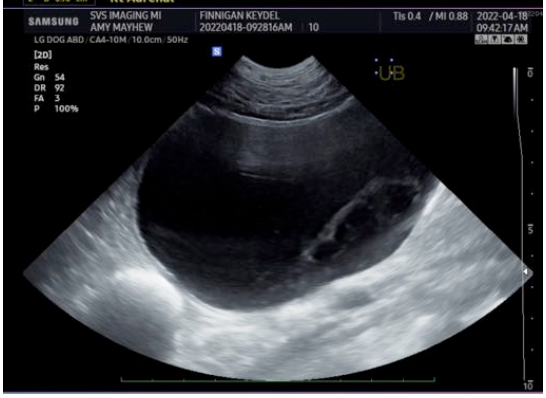

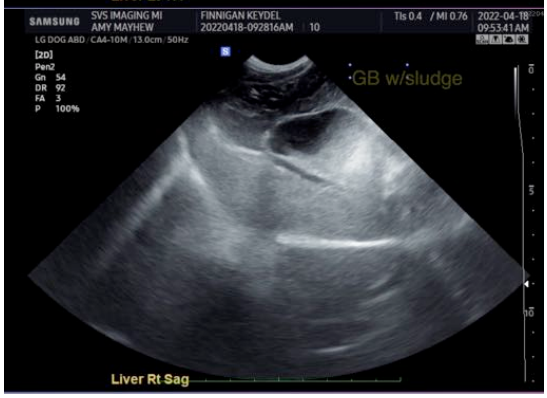

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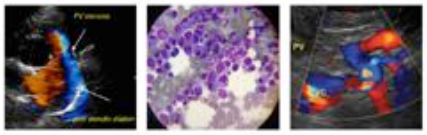

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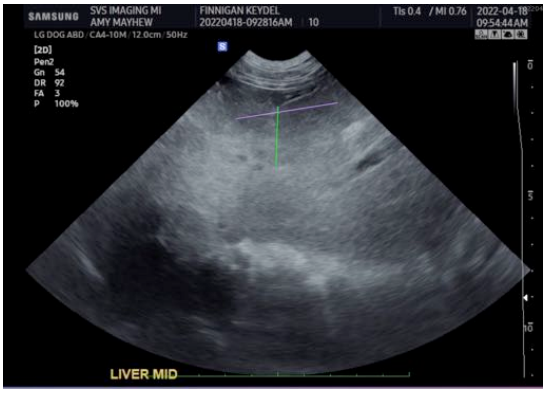

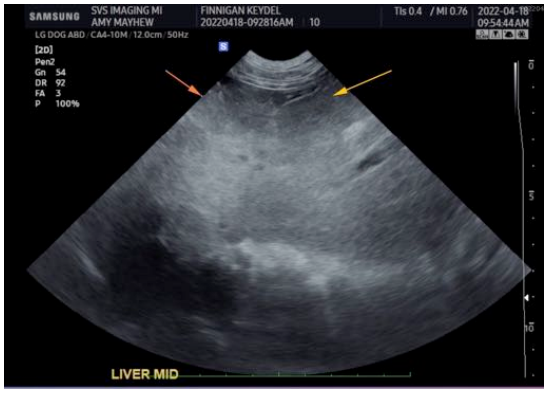

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Lisa Carioto, DVM, DVSc, Diplomate ACVIM

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