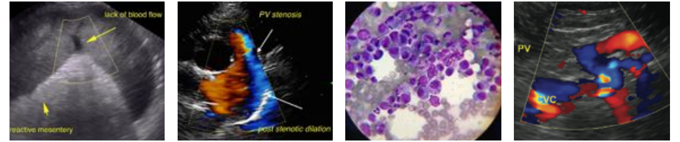


SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT

Dixie Davis

SPECIES

Canine

BREED

Miniature Schnauzer

SEX

Spayed female

AGE

10 years

WEIGHT

10.8 lbs

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Dr. Byrnes

HOSPITAL NAME

Pet Care Clinic of High Country

REFERRING VET

Dr. Byrnes

INVOICE

43072

DATE

12/13/22

PRESENTING CLINICAL SIGNS

History: P presented 11/29/22 as a new patient and for annual exam and vaccines. History of elevated ALKP , Ca, and TP. History of allergies, lipoma, and a cancerous mass in between shoulder blades that has not grown (owner unsure if this was biopsied to get diagnosis) 12/13/22- US performed- no sedation needed UPC collected free catch and sent out to lab Owner states she does think P pants alot, has a bloated abdomen, and drinks alot. Plan is to do LDDST next based on UPC and Ultrasound interpretation
Abnormal PE/Chem/CBC/UA Results: 7/20/20 Ca 12.9 (8.6-11.8) Alb 5.1 (2.5-4.4) ALKP 810 (20-150) 11/29/22 TP 7.8 (5.5-7.5) Glob 4.2 (2.4-4) ALT 139 (18-121) ALKP 1319 (5-160) Urinalysis: usg 1.022, Protein 3+, no bacteria T4 1.5 (1-4)

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The **urinary bladder**, trigone, and pelvic urethra presented normal thicknesses and normal tone. The ureters were not visible which is normal. No uroliths or sediment were visualized and anechoic urine was present. No evidence of inflammatory or neoplastic changes was noted. Ureteral papillae were normal.

The **kidneys** revealed largely normal size and structure, corticomedullary definition and ratio (cortex 1/3 of medulla) were essentially maintained with some age-related loss of curvilinear patterns regarding the capsule and C/M junction. The cortices presented largely uniform texture with some increased echogenicity expected for his age patient. Medullary structure differed distinctly from that of the cortex and no evidence of pelvic dilation was present. The left kidney measured 4.06 cm. The right kidney measured 4.7 cm.

Adrenal Glands

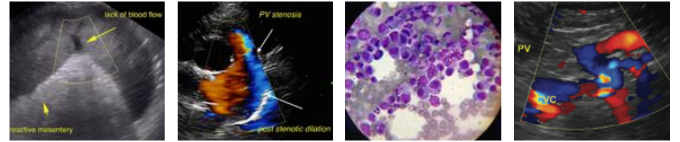
Both **adrenal glands** were at the upper limits of normal. The right adrenal glad measured 0.61 cm at the caudal pole and 0.67 cm at the cranial pole. The left adrenal gland measured 0.7 cm at the caudal pole and 0.56 cm at the cranial pole.

Spleen

The **spleen** presented a smooth homogeneous parenchyma hyperechoic to liver and renal cortical parenchyma. The capsule was smooth without noticeable expansion or deviation from within the spleen or adjacent pathology. The splenic vasculature demonstrated normal volume without signs of congestion or thrombosis. No sonographic evidence of acute or chronic inflammatory, neoplastic, or infarctual changes was noted.

Liver

The **liver** was uniformly swollen with minor, excessive gallbladder debris and over distension with dependent and suspended bile without evidence of overt mucocele formation. However, excessive sludge was present. Multi-focal, hypoechoic, non-disruptive nodular changes were noted. The largest nodule measured 1.5 cm. The liver presented coarse architecture with mildly increased portal markings



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and subtle, mixed echogenic changes. This is consistent with vacuolar hepatopathy and some level of remodeling and history of inflammatory component. There was no overt suspicion of neoplasia.

Gastrointestinal

Examination of the **gastrointestinal tract** revealed a stomach and intestine free of stasis, of normal wall thickness, acceptable curvilinear mural detail, and peristaltic activity. Small and large intestine demonstrated normal luminal chyme and stool consistency respectively. No obstructive or overt infiltrative disease was noted. No associated abnormal lymphatic activity was noted.

Pancreas

The base and limbs of the **pancreas** were observed to be largely isoechoic to surrounding omental fat. Pancreatic duct and capsular contour were acceptably normal and parenchyma respected normal curvilinear patterns. No overt evidence of active inflammatory or neoplastic disease was noted.

ULTRASONOGRAPHIC FINDINGS

Slightly enlarged adrenal glands.

Geriatric abdomen with pronounced nodular hyperplasia liver pattern.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

FNA of the liver with cytology and culture is indicated. There is a mild potential for neoplasia and a mild potential for pancreatic abscessation. FNA of the general liver and most accessible larger nodule is recommended with cytology and culture. Ursodiol therapy could be justified in this patient. If the urine specific gravity is less than 1.025 persistently and the patient appears Cushingoid then work-up for Cushing's/PDH is indicated. Blood pressure measurements are also indicated.

Efficient & Accurate Cushing's Work up-Lindquist

Notes regarding Cushing's Clinical Presentations:

Nearly all Cushing's dogs have SAP elevations and true PU/PD (USG < 1.025) and most are polyphagic.
Cushing's dogs are > 6 years and usually > 9 years old, usually have poor skin coats, body scores > 3/5, and are usually sedentary animals.
Its important to remember that Cushing's dogs usually look and play the part and other diseases cause false + stress related cortisol spikes. On rare occasion a Cushing's dog will not follow the rules but this is truly an exception.
Potential Cushing's patient workups can be costly and frustrating if not definitive and, in my experience, the non-definitive patient usually has something else going on that may be contributing to some of the clinical signs a Cushing's dog will have, especially SAP elevations or PU/PD. Based on this prelude of information I came up with the following algorithm in the spirit of diagnostic efficiency. The following suggested protocol is based on current available literature on Cushing's disease and extensive clinical-sonographic experience evaluation + Cushing's and False + LDDST & ACTH stim. cases in order to maximize the efficiency of a Cushing's workup in practice.

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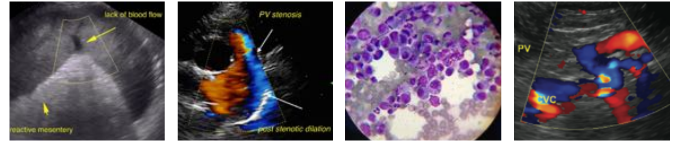

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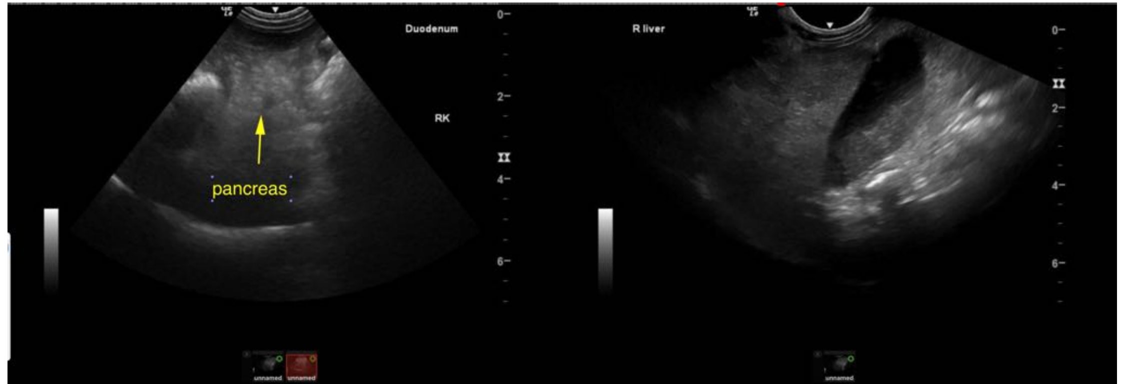

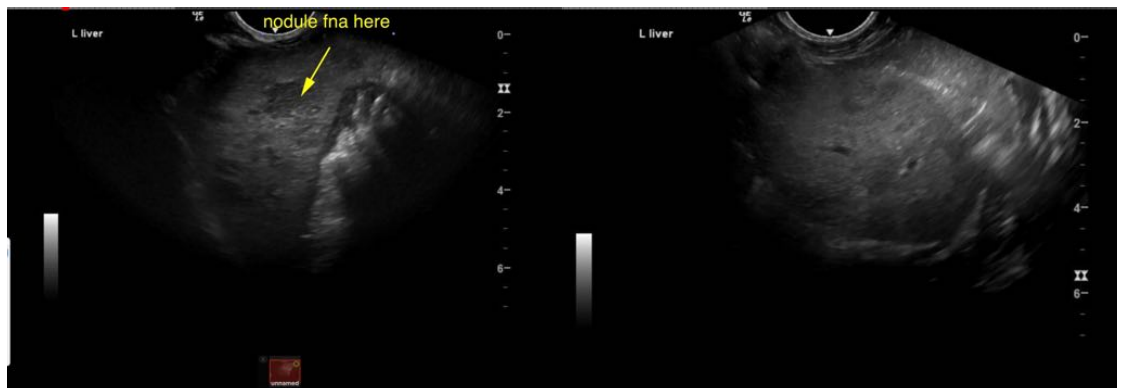

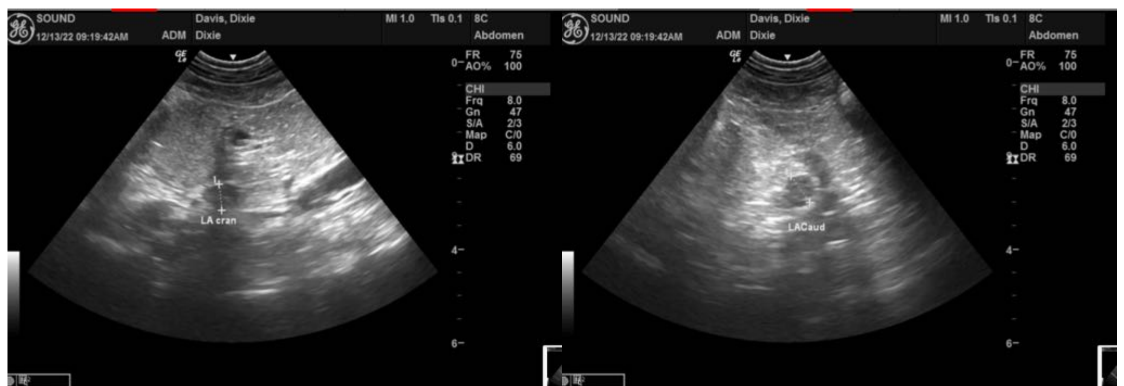

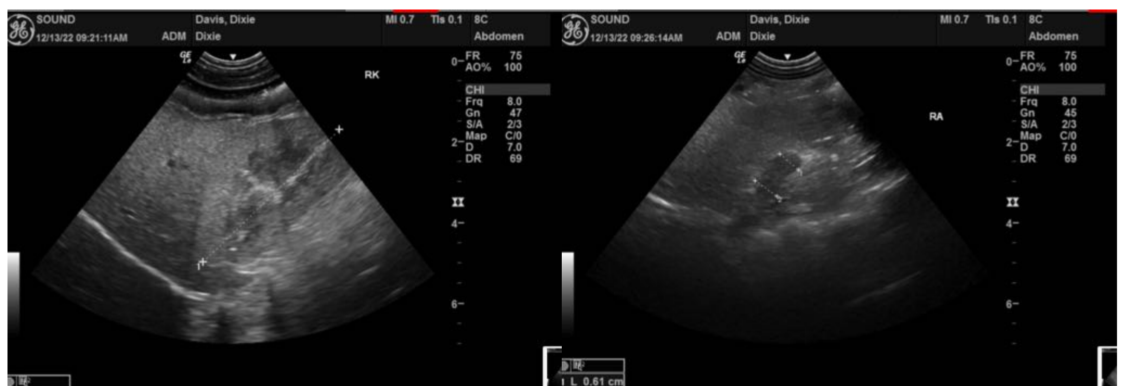

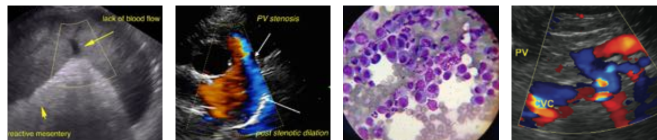

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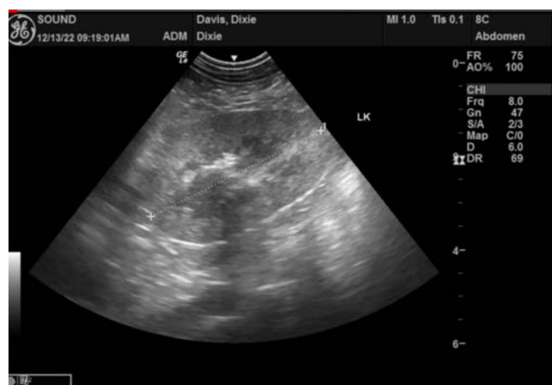

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Eric Lindquist, DMV, DABVP, Cert. IVUSS, CEO of SonoPath.com
info@SonoPath.com