



PATIENT PRESENTING CLINICAL SIGNS

Harry Pryor

History: Patient has been diabetic for a year or two. He has been managed pretty well overall, but recently had some increases in liver and gall bladder enzymes that we decided to explore further. When he was first diagnosed with diabetes, he was really hard to get under control. At one point we actually tested him for Cushing's with low dose dex suppression test because he was over the 1.5 unit/kg insulin dose that suggested possible Cushing's. We ended up switching his insulin and he is much better controlled on Vetsulin. He also has a history of mast cell tumor low grade II removed last year from scrotal region

SPECIES

Canine

BREED

Miniature Schnauzer

Abnormal PE/Chem/CBC/UA Results: ALKP last year 1046, this year 2506 GGT last year 9, this year 25 ALT last year 146, this year 237

SEX

Neutered male

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The **urinary bladder** revealed minor bladder wall thickening with a trace amount of sand. Minor micropolypoid changes were noted.

AGE

10 years

The **kidneys** were normal in size and contour; however, a minor hyperechoic ring was noted at the corticomedullary junction. This is consistent with diabetic nephropathy. This is likely from glucosuria. However, assessment for proteinuria is also warranted. This is an idiopathic finding, but an expected finding in diabetic patients.

WEIGHT

15 lbs

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUS

Adrenal Glands

Both **adrenal glands** were visualized and recognized as having normal shape, size, position and echogenicity for this breed. The phrenic vasculature, glandular echogenicity and detail were unremarkable. Capsule, cortex, and medullary definition were normal for this age patient. The left adrenal gland measured 0.59 cm. The right adrenal gland measured 0.71 cm.

IMAGING PERFORMED BY

Dr. Kitz

Spleen

The **spleen** revealed an expansive, hypoechoic, undifferentiated 1.12 cm nodule at the mid cranial body. The remainder of the spleen was unremarkable.

HOSPITAL NAME

Woodlands AH

Liver

REFERRING VET

Dr. Kitz

Exam of the cranial abdomen demonstrated excessive **liver** size, swollen contour, with conserved uniform architecture. Parenchymal echogenicity was diffusely isoechoic to the spleen and falciform fat. Minor excessive GB debris was noted with the presence gall bladder dilation and precipitate without the overt formation of mucocele but this may be an issue in the future. This type of liver presentation typically is associated with slow and gradual SAP elevations with low-grade ALT rise. USG-FNA sampling is encouraged if more aggressive LE profiles are present such as ALT > 200 or rapid rise in SAP. These presentations are usually reactive hepatopathies owing to other disease processes either endocrine (Diabetes, Hypothyroidism, Cushing's disease), "antigen surveillance" from the gut/pancreas, or idiopathic breed predisposed progressions.

INVOICE

44735

DATE

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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. The wall thickness measured 0.31 cm. 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. Some parenchymal remodeling, however, with mild deviation from curvilinear normalcy was observed. Pancreatic duct and capsular irregularities were present consistent with age related changes. If pain upon imaging (+ Murphy sign) was present or if the patient is focally painful in subxiphoid palpation then low-grade smoldering chronic pancreatitis should be suspected.

ULTRASONOGRAPHIC FINDINGS

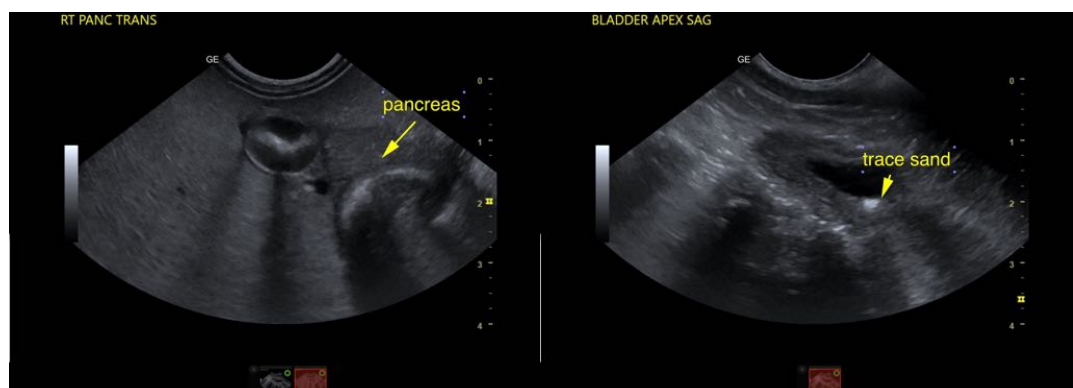
Diabetic hepatopathy.

Diabetic nephropathy.

Splenic nodule of concern.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Assessment for UTI is warranted if not already performed. Screening FNA of the general spleen and liver as well as splenic nodule would be recommended for further definition and baseline. Direct splenectomy with liver inspection and biopsy can be considered. However, full urinary work-up is warranted with sand dissolution for any evidence of UTI. Differentials on the spleen include emerging round cell neoplasia, benign hyperplasia, hemangiosarcoma are all possible. Chest radiographs and echocardiogram are warranted to assess for metastatic disease.





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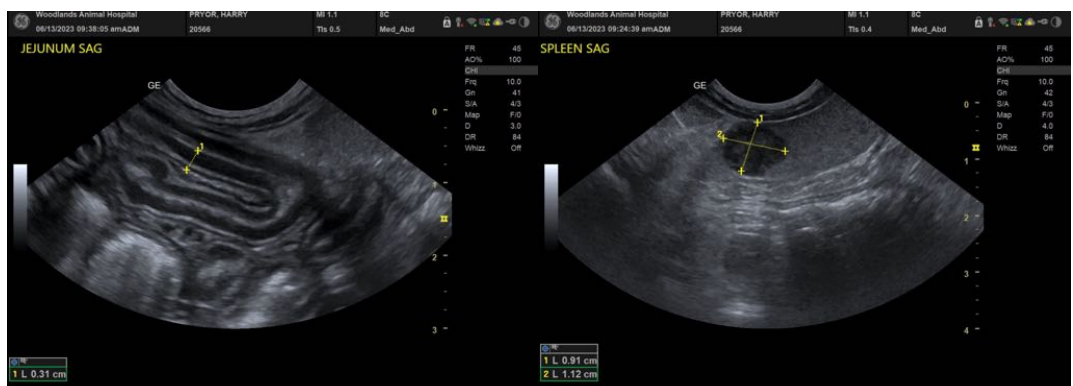
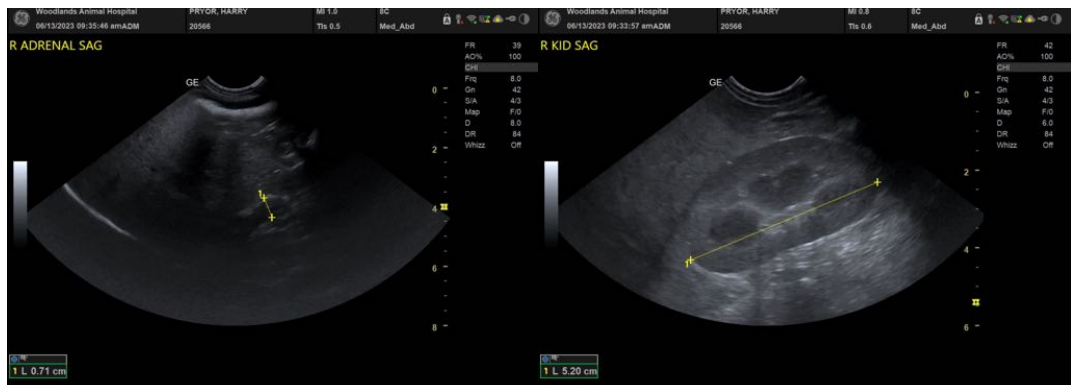
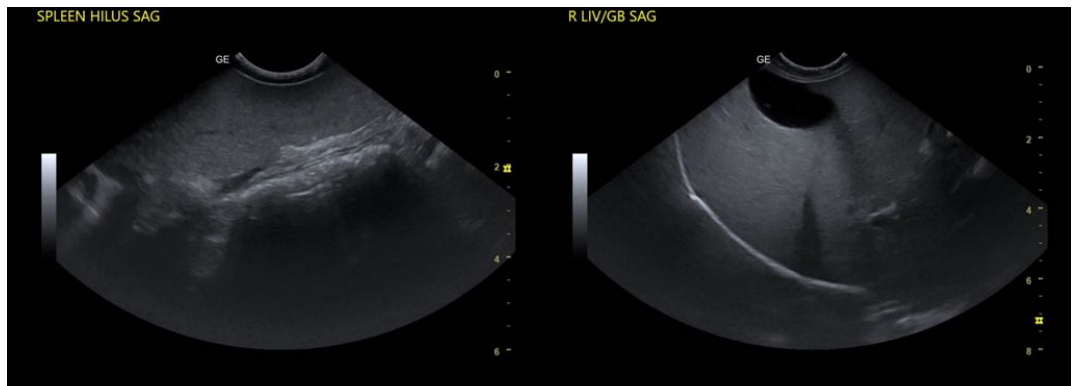
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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