



PATIENT

Happy Stellar

SPECIES

Canine

BREED

Chihuahua Cross

SEX

Neutered male

AGE

9 years

WEIGHT

4.6 kg

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Dr. Barthelemy

HOSPITAL NAME

Britannia Kingsland VC

REFERRING VET

Dr. Radcliffe

INVOICE

42032

DATE

1/10/23

PRESENTING CLINICAL SIGNS

History: Recently diagnosed with diabetes mellitus and started on caninsulin 1 unit BID. PU/PD. Abnormal PE/Chem/CBC/UA Results: Mildly elevated liver values (ALP, ALT, AST) and moderately elevated GGT. Glucosuria with ketones present.

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** 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. Slight pyelectasia was noted in the right kidney. The right kidney measured 4.72 cm. The left kidney measured 4.54 cm.

Adrenal Glands

The right **adrenal gland** was enlarged, irregular and heterogenous with capsular expansion without capsular escape. Areas of mineralization were also noted in the right adrenal gland. The vena cava appeared free of evident invasion. There was minor pericapsular inflammatory pattern. The right adrenal gland measured 1.32 cm at the cranial pole and 0.6 cm at the caudal pole. The left adrenal gland was slightly swollen at the caudal pole and measured 0.64 cm and the cranial pole measured 0.47 cm with minor, heterogenous parenchymal changes.

Spleen

The **spleen** was largely smooth with subtle heterogeneous parenchymal changes while maintaining normal echogenic relationship to the liver and kidney. The spleen revealed a 0.5 cm mixed echogenic to hyperechoic nodule in the mid cranial body. These changes are consistent with normal age-related alteration. The capsule was smooth without noticeable impingement from within the spleen or from pathology in the adjacent abdomen. The splenic vasculature demonstrated normal volume without signs of congestion or significant contraction. No evidence of active 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. The liver presented coarse architecture with mildly increased portal markings and subtle, mixed echogenic changes. This is consistent with vacuolar hepatopathy and some level of remodeling and history of inflammatory component. Micronodular changes were noted in the liver and are likely benign.



PATIENT

Happy Stellar

SPECIES

Canine

BREED

Chihuahua Cross

SEX

Neutered male

AGE

9 years

WEIGHT

4.6 kg

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Dr. Barthelemy

HOSPITAL NAME

Britannia Kingsland VC

REFERRING VET

Dr. Radcliffe

INVOICE

42032

DATE

1/10/23

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

Irregularly enlarged right adrenal gland. Hyperplasia versus pheochromocytoma or carcinoma is possible.

Splenic and hepatic nodules.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

FNA of the splenic and hepatic nodules would be ideal. Serial blood pressure measurements are warranted. If hypertension is an issue then urine catecholamine is indicated regarding the right adrenal gland potential of being pheochromocytoma. If the patient appears Cushingoid right adrenal carcinoma is possible. Proactive right adrenalectomy is likely in this patient's best interest given the heterogenous parenchymal changes and areas of mineralization and capsular expansion. Work-up for adrenal dependent Cushing's would be appropriate.

Potential Causes of Diabetic Dysregulation

This is a suggestive checkoff list when faced with an unregulated diabetic patient:

UTI

Dietary indiscretion/intolerance

Pancreatitis

Hyperthyroidism/hypothyroidism

Exogenous steroids (including topical eye meds)

Cushing's

Acromegaly



PATIENT

Owner compliance

Happy Stellar

Insulin quality issues

SPECIES

Antibodies to insulin

Canine

Underlying Neoplasia

Diffuse liver disease

BREED

Chihuahua Cross

SEX

Neutered male

AGE

9 years

WEIGHT

4.6 kg

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Dr. Barthelemy

HOSPITAL NAME

Britannia Kingsland VC

REFERRING VET

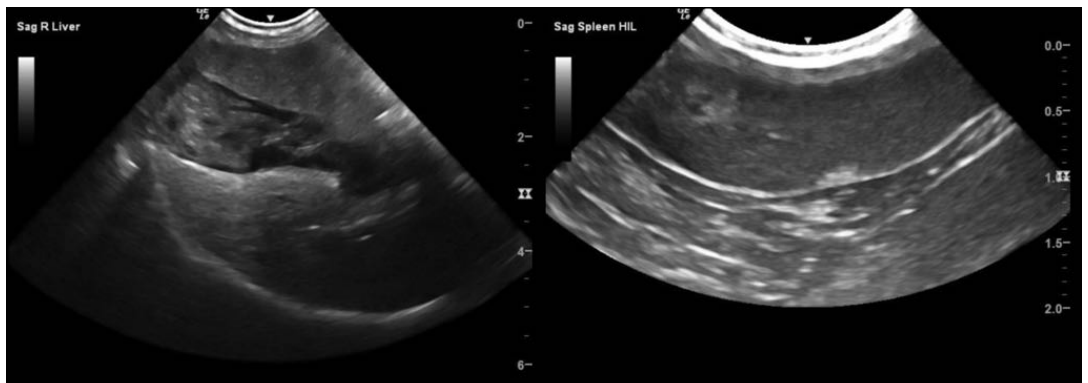
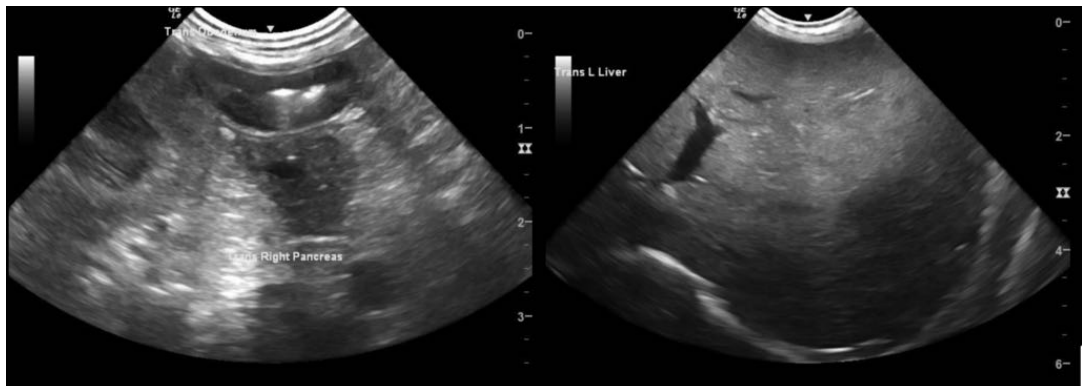
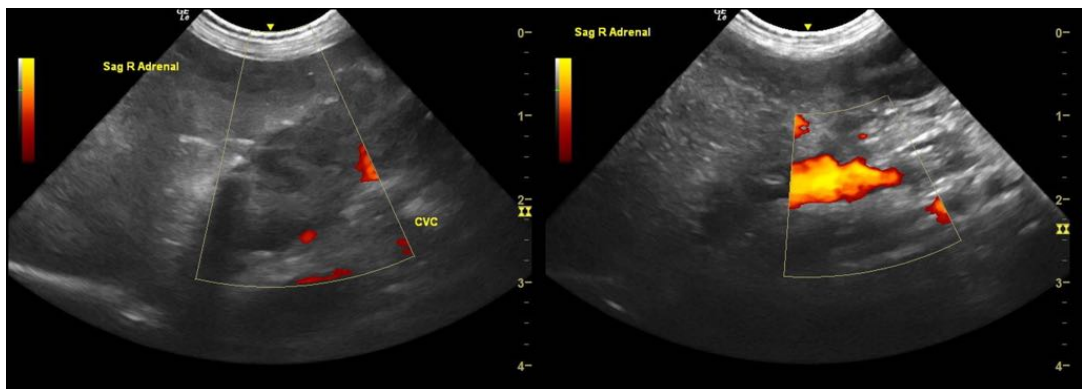
Dr. Radcliffe

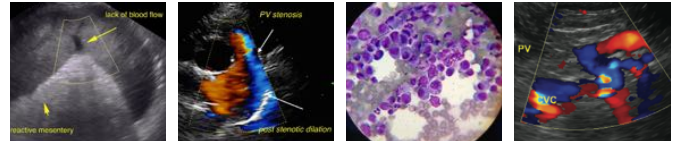
INVOICE

42032

DATE

1/10/23





PATIENT

Happy Stellar

SPECIES

Canine

BREED

Chihuahua Cross

SEX

Neutered male

AGE

9 years

WEIGHT

4.6 kg

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Dr. Barthelemy

HOSPITAL NAME

Britannia Kingsland VC

REFERRING VET

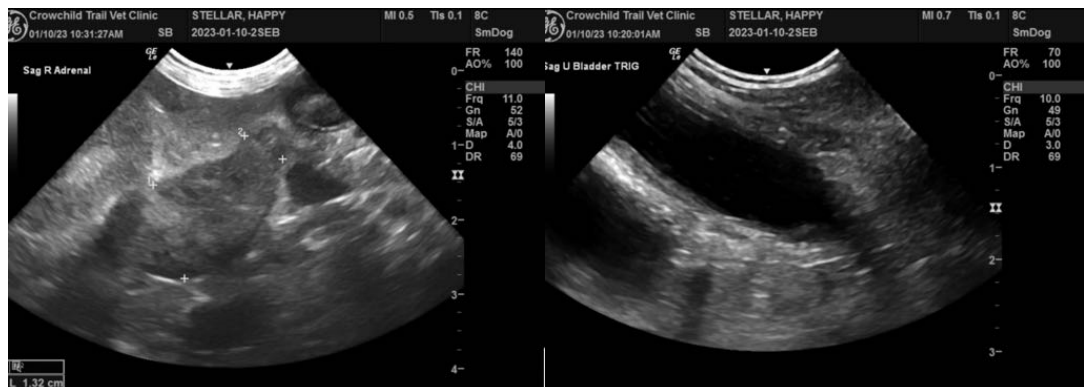
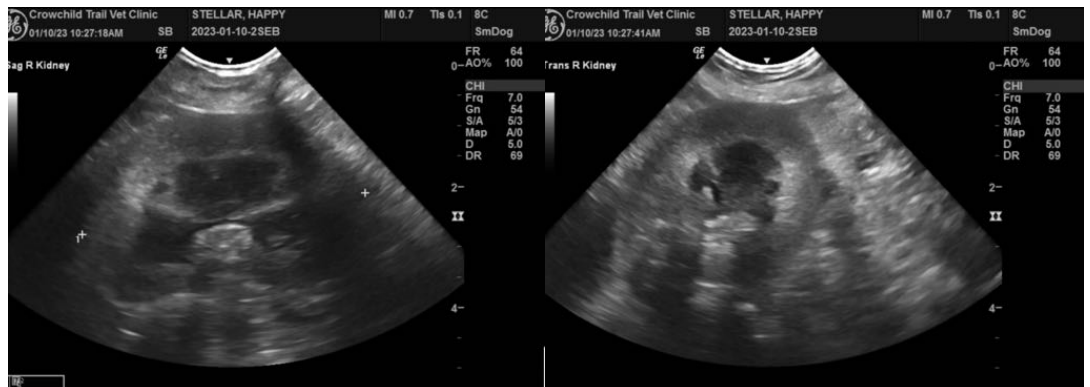
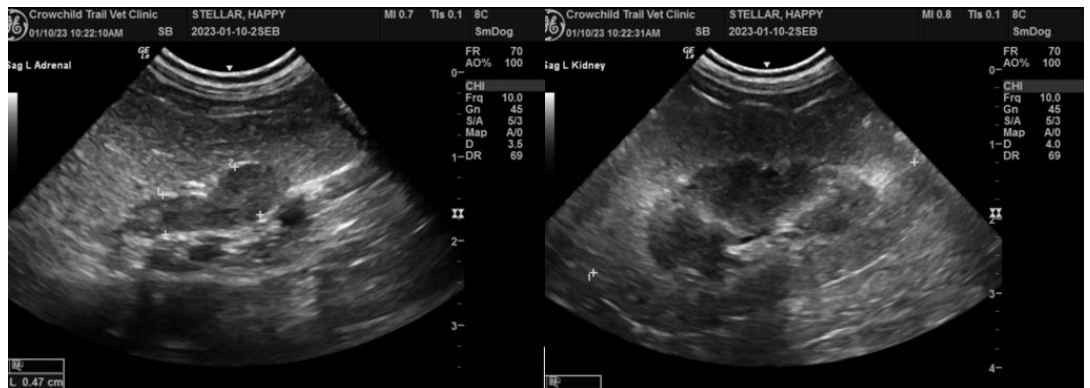
Dr. Radcliffe

INVOICE

42032

DATE

1/10/23



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