



PATIENT

Max Introna

SPECIES

Canine

BREED

Yorkie

SEX

Neutered Male

AGE

2008

WEIGHT

17.64 lbs

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert IVUSS

**IMAGING
PERFORMED BY**

Denise Bruno, LVT,
RDMS

HOSPITAL NAME

Farview AC

REFERRING VET

Dr. Mosaad

INVOICE

92124

DATE

09/30/21

PRESENTING CLINICAL SIGNS

History: Losing weight
Diabetic - on Vetsulin 6 units Bid.

Labs and Radiographs attached

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 residual prostate measured 0.8 cm.

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. Hyperechoic medullary rim sign was noted in the kidneys with slight pyelectasia. The left kidney measured 5.19 cm. The right kidney measured 4.45 cm.

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 right adrenal gland was hyperechoic with an expansive nodule that measured 1.19 cm at the cranial pole and 0.61 cm at the caudal pole and 2.35 cm in length. The left adrenal gland was enlarged and nodular measuring 4.0 x 1.66 cm at the caudal pole and 1.72 cm at the cranial pole.

Spleen

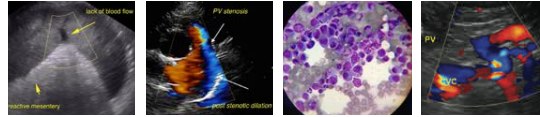
The **spleen** is coarse in architecture with hyperechoic remodeling. The contour was uniform.

Liver

The **liver** was diffusely enlarged with micro and macronodular changes. The largest nodule measured up to 2.5 cm. Gallbladder polyps and dependent debris was noted. Multi-focal nodular changes were noted throughout the liver and were non-disruptive.

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



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demonstrated normal luminal chyme and stool consistency respectively. No obstructive or overt infiltrative disease was noted. No associated abnormal lymphatic activity was noted.

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Pancreas

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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.

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ULTRASONOGRAPHIC FINDINGS

SEX

Bilateral nodular adrenal glands.

Neutered Male

Mild, hyperechoic medullary rim kidney, subjectively benign.

Vacuolar hepatopathy and nodular hyperplasia liver pattern.

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

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Assessment for Cushing's is warranted as well as blood pressure measurements. There is no overt evidence of neoplasia. If the urine specific gravity is less than 1.020 then work-up for PDH is warranted. However, I cannot rule out carcinoma or pheochromocytoma with either adrenal, but they would be most consistent with bilateral adrenal adenomas or hyperplasia. Recheck sonogram is recommended in a month to assess for progression of the adrenal glands. The splenic presentation is likely secondary to diabetic state.

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Potential Causes of Diabetic Dysregulation

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

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UTI

Dietary indiscretion/intolerance

Pancreatitis

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Hyperthyroidism/hypothyroidism

Exogenous steroids (including topical eye meds)

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Cushing's

Acromegaly

Owner compliance

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Insulin quality issues

Antibodies to insulin

Underlying Neoplasia

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Diffuse liver disease



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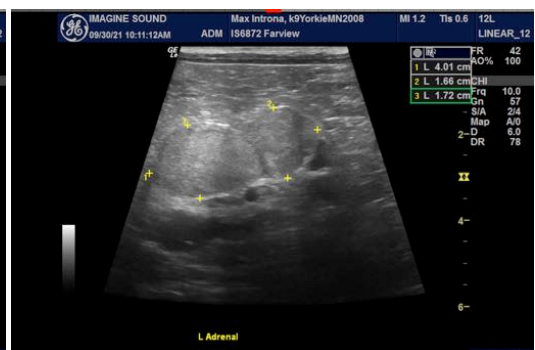
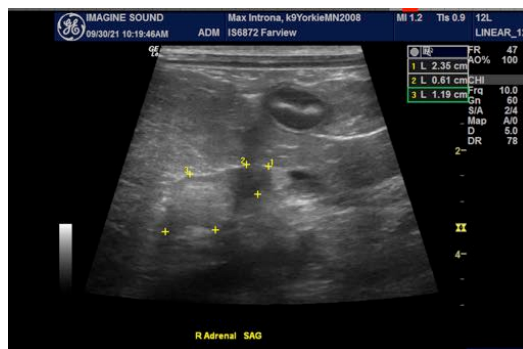
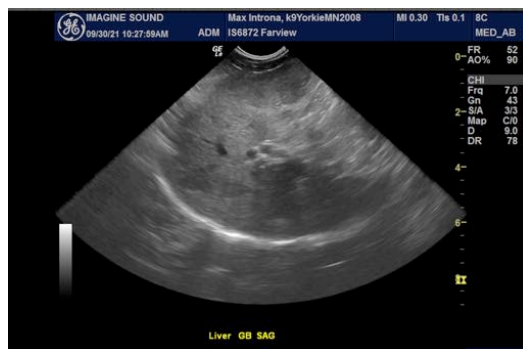
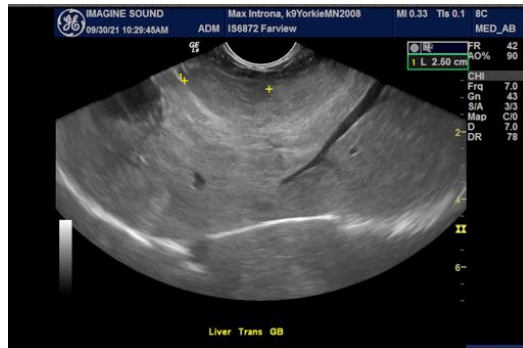
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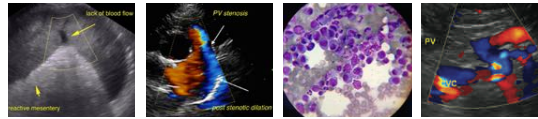
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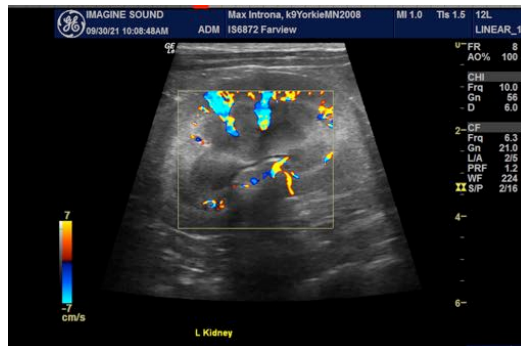
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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
Eric.Lindquist@SonoPath.com