



PATIENT

Lulu Holtmann

SPECIES

Canine

BREED

Lhasa Apso Mix

SEX

Spayed female

AGE

12 years

WEIGHT

20.15 lbs

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Dr. Baugh

HOSPITAL NAME

True North VS

REFERRING VET

Dr. Baugh

INVOICE

47784

DATE

6/16/23

PRESENTING CLINICAL SIGNS

History: An abdominal ultrasound was suggested due to the fact that Lulu's ALT and AST levels have almost doubled in 4 weeks time. She has also been diagnosed as having hyperadrenocorticism within that 4 week time frame. She has had chronic skin issues. She has a 2/6 left sided systolic murmur.
Abnormal PE/Chem/CBC/UA Results: In the uploaded files.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The **urinary bladder**, trigone, and pelvic urethra presented normal thicknesses and normal tone. The pelvic urethra was imaged 2.0 cm beyond the cystourethral junction and appeared normal. 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 4.5 cm. The right kidney measured 5.3 cm.

Adrenal Glands

The left adrenal gland revealed a mixed, echogenic, expansive mass. The mass measured 2.4 cm at the caudal pole and deviated the left renal artery. Capsular expansion was noted without overt capsular escape. The cranial pole was fairly normal and measured 0.6 cm. The right adrenal gland also revealed an expansive mass that measured 3.6 x 2.3 cm. The mass impinged upon the vena cava with areas of mineralization.

Spleen

The **spleen** in this patient was mildly enlarged with uniform parenchyma and was folded upon itself caudally. This is a positional variant and is not pathological. There was no evidence of significant disease.

Liver

The **liver** revealed multi-focal, hypoechoic nodular changes. The liver had coarse architecture and relatively normal size. The gallbladder was mildly over distended with suspended and dependent debris, yet not to the level of emerging mucocele, yet sludge appears to be mildly excessive. Gallbladder also revealed polyps as well as excessive debris and dilated cystic duct. No adjunctive inflammation was noted.



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Gastrointestinal

There was some residual chyme and gas was noted in the **stomach**, yet not pathological. This is consistent with end post prandial presentation. Transit of chyme into the small intestine was normal. Curvilinear patterns were maintained throughout the GI tract. No evidence of pathology. 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

Bilateral adrenal masses. Differentials include myelolipomas, adenomas, possibility of adenocarcinoma, pheochromocytoma.

Undefined splenic nodules.

Nodular hepatic changes. Nodular hyperplasia versus metastatic disease, abscessation and emerging round cell neoplasia are all possible, yet less likely.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Full adrenal work-up with serial blood pressure measurements are warranted. If hypertension is present then urine catecholamine is indicated. If the patient appears Cushingoid then work-up for either adrenal dependent or PDH/Cushing's would be indicated. FNA of the liver nodules is indicated. The adrenal presentation may be benign given the breed predisposition to adenomatous development in the adrenal glands.





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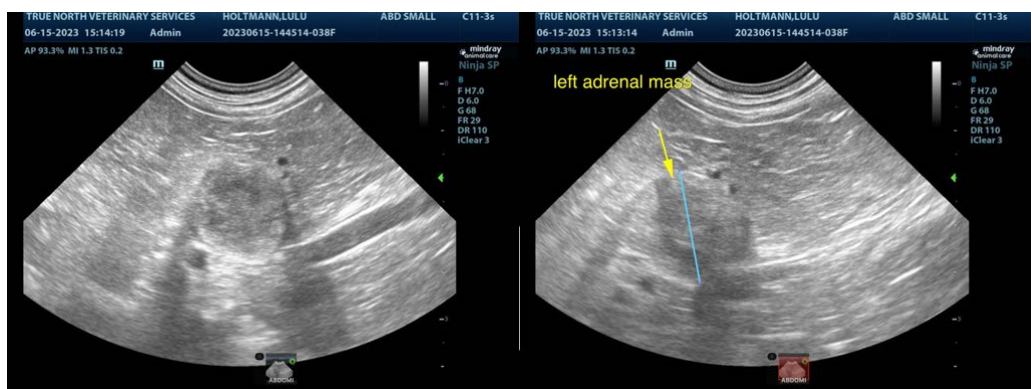
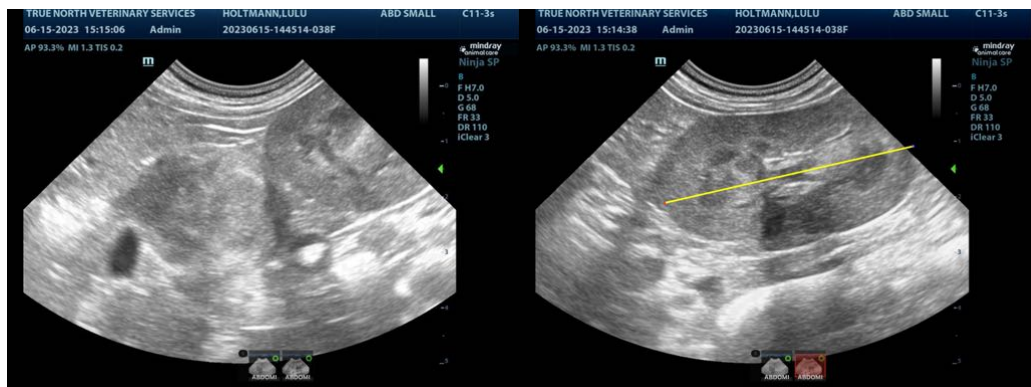
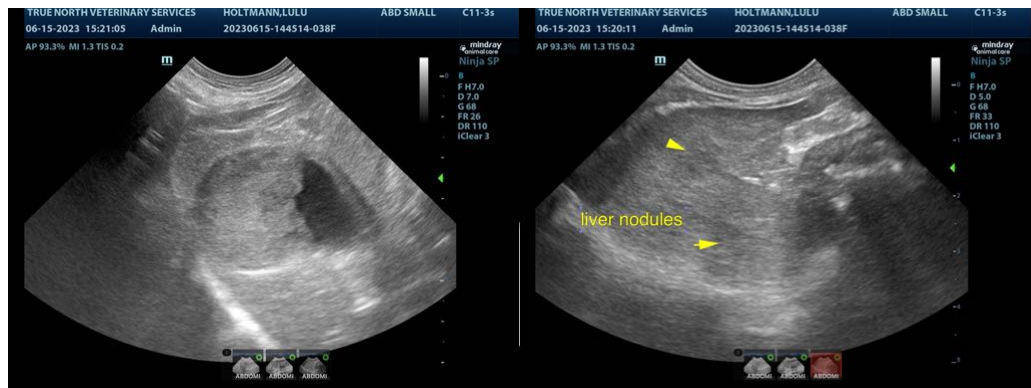
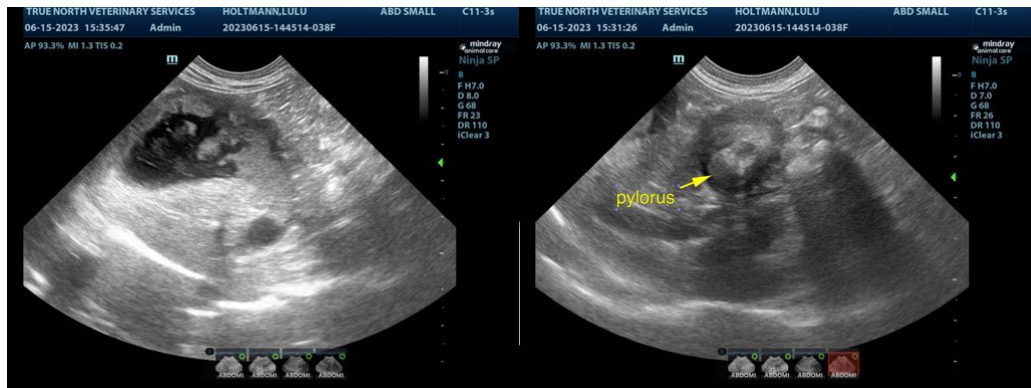
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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