



PATIENT PRESENTING CLINICAL SIGNS

Maxie Porter

History: Patient with history of elevated liver enzymes presents for abdominal ultrasound. Current meds: Denamarin, Ursodiol, and on L/D diet.

SPECIES

Abnormal PE/Chem/CBC/UA Results: ALT 644, ALP 747, GGTP 32, ADT 77. Blood work from 2/22: ALT 178, ALP 350, GGTP 9, AST 38.

Canine

BREED

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Maltese

Urinary System

SEX

Spayed Female

The **urinary bladder** presented a relatively uniform thickening of the cranioventral and craniodorsal mucosae with micropolypoid mucosal changes without involvement of the submucosae. The urine presented some echogenicity consistent with suspended debris. No evidence of urethral pathology was present. This presentation is most consistent with chronic cystitis. Technically transitional cell carcinoma cannot be ruled out without histopathological review but is not overtly suspected based on this pattern. Cystocentesis and urine culture +/- pathological review of urine cytology would be warranted. No overt calculi were present at this time.

AGE

13 years

WEIGHT

11.3 lbs

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 this age patient. Medullary structure differed distinctly from that of the cortex and no evidence of pelvic dilation was present. The right kidney measured 3.41 cm. The left kidney measured 3.44 cm.

INTERPRETED BY

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

Adrenal Glands

IMAGING PERFORMED BY

Kelly Vazquez, CVT

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 measured 1.36 x 0.38 cm at the caudal pole and 0.33 cm at the cranial pole. The left adrenal gland measured 1.19 x 0.46 cm at the caudal pole and 0.39 cm at the cranial pole.

HOSPITAL NAME

Animal General on Hudson

Spleen

REFERRING VET

Dr. Ng

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.

INVOICE

30923

Liver

DATE

5/31/22

The **liver** revealed multi-focal, hypoechoic nodular changes were noted with mildly increased portal markings. The gallbladder was unremarkable with normal tear drop appearance.



PATIENT

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Gastrointestinal

SPECIES

Canine

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.

BREED

Maltese

Pancreas

SEX

Spayed Female

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.

AGE

13 years

ULTRASONOGRAPHIC FINDINGS

Diffuse nodular hepatic changes with remodeling. Pronounced nodular hyperplasia is likely.

WEIGHT

11.3 lbs

Age related renal changes with mineralization.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

If crusting skin lesions are an issue then hepatocutaneous syndrome should be considered. Bile acid profile is indicated along with a hepatic FNA. Given the diffuse hepatic changes bile acid profile and ultrasound-guided FNA is strongly encouraged. Assessment for crusting skin lesions is indicated. Neoplasia is unlikely; however, diffuse liver disease does exist. Hepatic support is recommended especially if bile acids are elevated. A clinical trial of Amoxicillin and Metronidazole, SAMe/nutraceuticals are all indicated.

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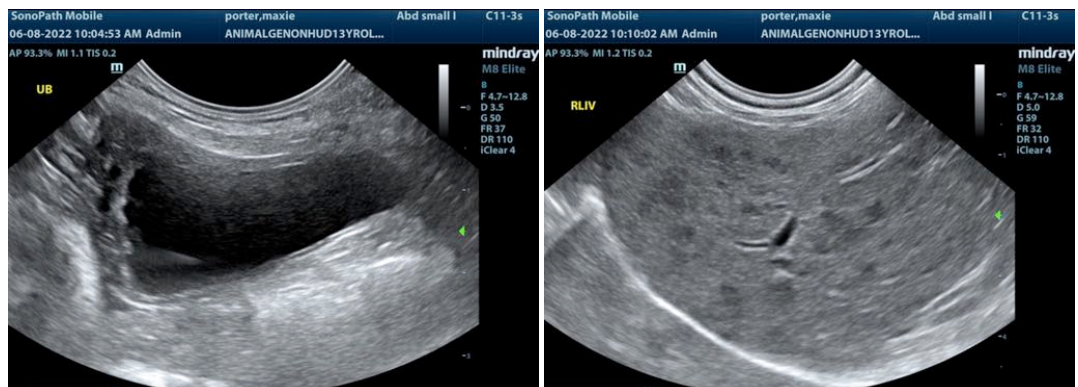
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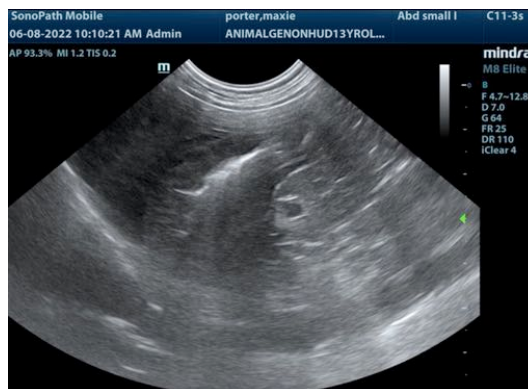
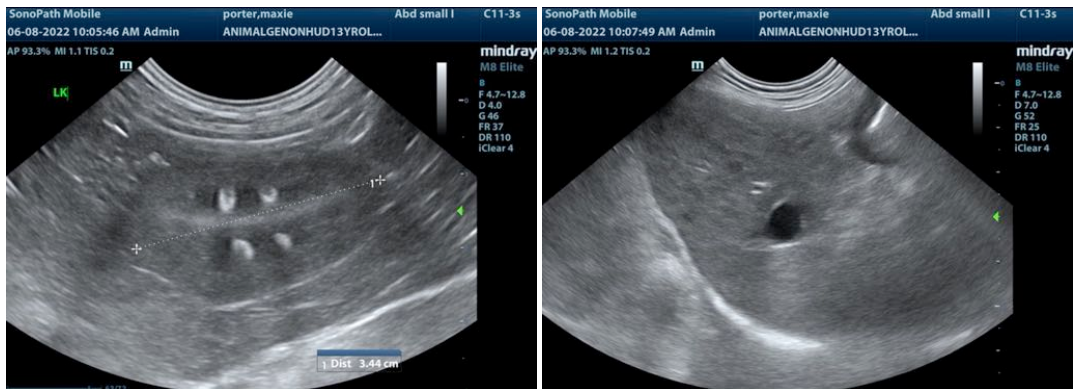
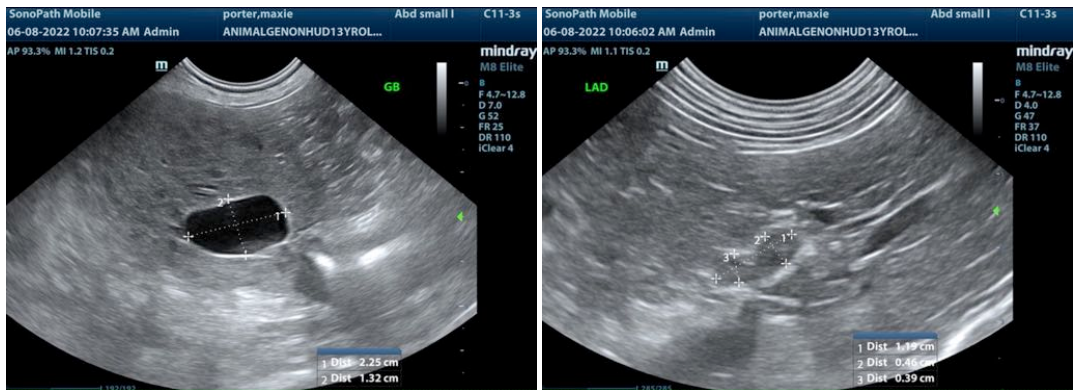
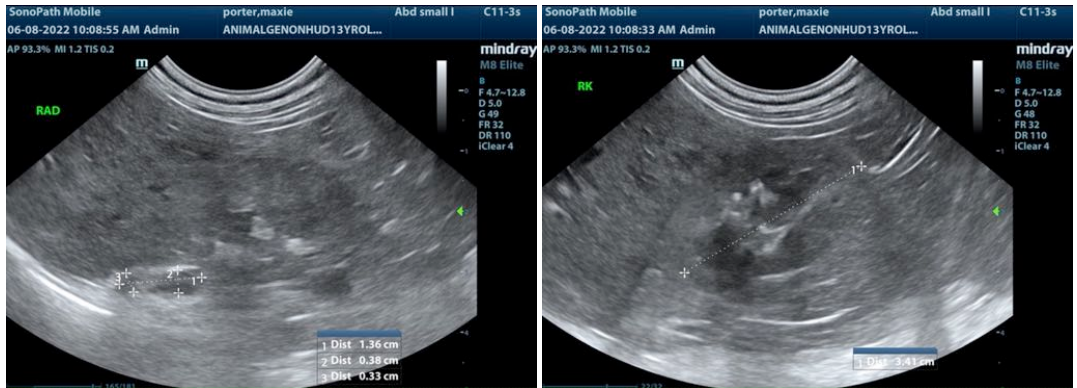
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

SPECIES

Canine

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.

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