



PATIENT

Minnie Marshmallo
Scudiero

SPECIES

Canine

BREED

Maltese

SEX

Spayed Female

AGE

12 ½ years

WEIGHT

7.98 lbs

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUSS

**IMAGING
PERFORMED BY**

Denise Bruno, LVT,
RDMS

HOSPITAL NAME

Brooklyn Heights

REFERRING VET

Dr. Thomson

INVOICE

30823

DATE

5/31/22

PRESENTING CLINICAL SIGNS

History: Recurrent UTI/crystalluria. Hx Increased liver enzymes- Evaluate gallbladder vs GI vs other. Hx IBD - on B12 monthly, Pred 5mg 1/2 tab 2x weekly, Uromaxx. BW + previous AUS attached.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The **urinary bladder** and trigone presented normal thicknesses and normal tone. The urethra was uniform and measured 0.3 cm with no evidence of residual pathology. 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 this age patient. Medullary structure differed distinctly from that of the cortex. Slight pyelectasia was noted in the right kidney. The right kidney measured 4.43 cm with pyelectasia that measured 0.18 cm. Blood flow to the kidneys appeared adequate. The left kidney measured 4.13 cm.

Adrenal Glands

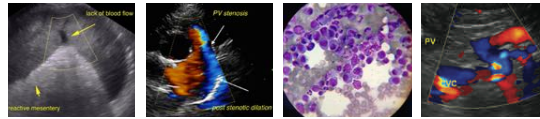
Both **adrenal glands** were visualized and recognized as having normal shape, size, position and echogenicity for this breed. The phrenic vasculature, glandular echogenicity and detail were unremarkable. Capsule, cortex, and medullary definition were normal for this age patient. The right adrenal gland measured 1.98 x 0.47 cm at the caudal pole and 0.34 cm at the cranial pole. The left adrenal gland nodule has expanded to 1.26 x 0.99 cm and was deriving from the caudal pole. The cranial pole measured 0.47 x 2.06 cm in length.

Spleen

The **spleen** was largely smooth with subtle heterogeneous parenchymal changes while maintaining normal echogenic relationship to the liver and kidney. 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

Exam of the cranial abdomen demonstrated excessive **liver** size and swollen contour. Mild, coarse architecture was noted with increased portal markings and minor parenchymal remodeling is suggestive of an inflammatory component. 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



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> 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.

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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. No obstructive or overt infiltrative disease was noted. No associated abnormal lymphatic activity was noted.

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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.

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ULTRASONOGRAPHIC FINDINGS

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Progressive left adrenal nodule. Concern for emerging carcinoma. Pheochromocytoma is possible, yet adenoma is most likely.

Progressive moderate degenerative renal changes with secondary cysts and pyelectasia.

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Nodule on the liver on the prior sonogram was not evident. Minor, heterogenous subjectively benign changes were noted in the liver and not a clinical issue.

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The degenerative changes in the kidneys have progressed from the prior sonogram with microcystic changes. I am most concerned about the left adrenal in this patient. Serial blood pressure measurements +/- urine catecholamine is indicated. If the patient appears Cushingoid then work-up for adrenal dependent Cushing's is indicated.

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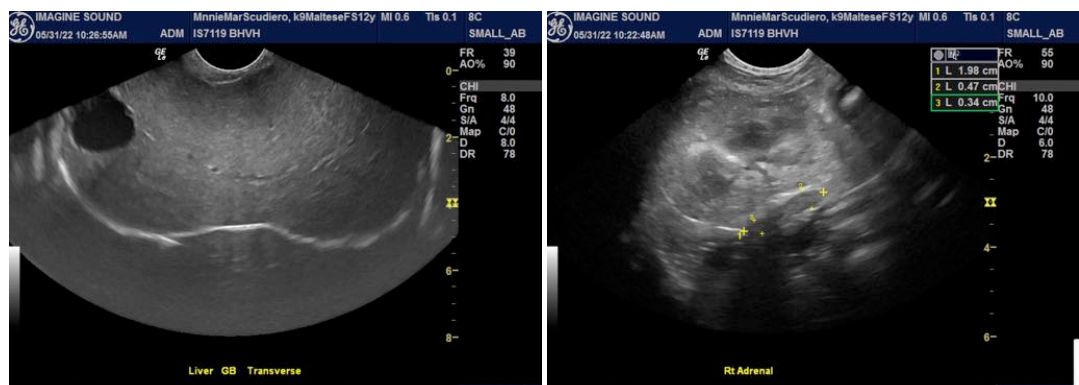
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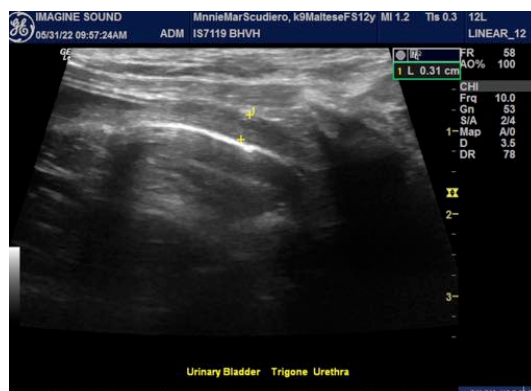
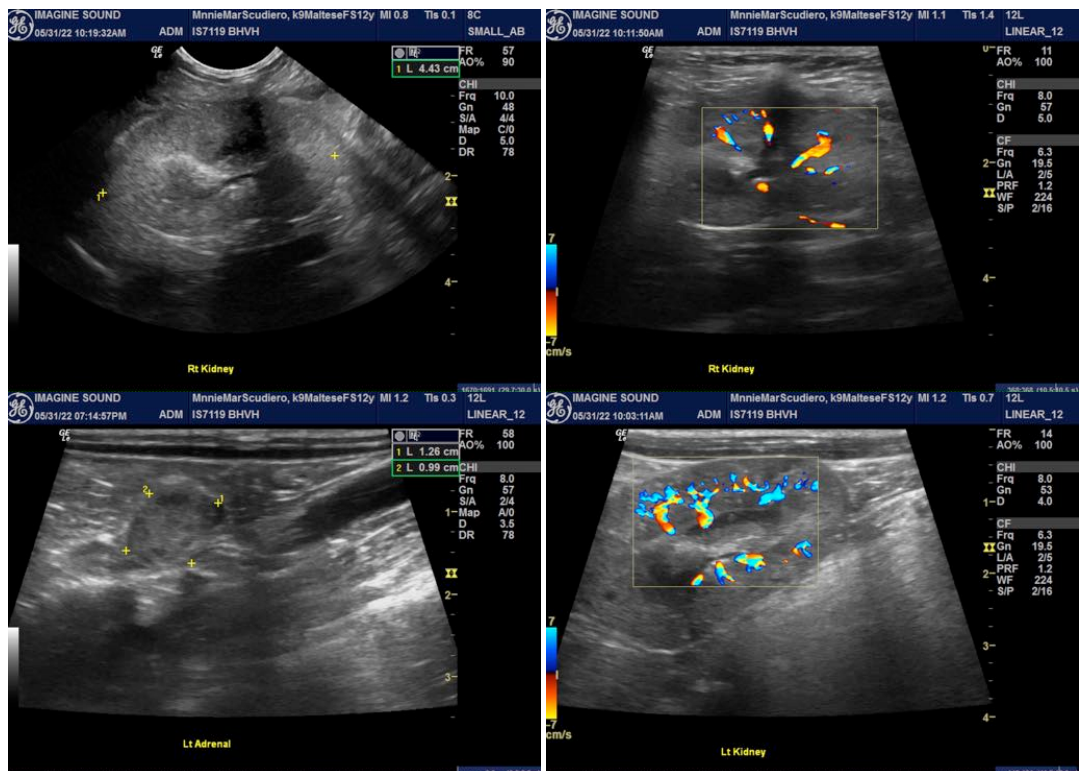
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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