



**PATIENT**                      **PRESENTING CLINICAL SIGNS**

Charlie Wainwright

History: History of hypercalcemia, hyperparathyroidism, heart disease. Hyperparathyroidism was controlled via surgery and P is on calcitriol, benazepril, Vetmedin, furosemide. Recently diagnosed with Cushing's disease - AUS primarily to assess adrenal glands.

**SPECIES**

Abnormal PE/Chem/CBC/UA Results: ACTH Stim: Pre 9.9, Post 22.1 Ionized Ca<sup>2+</sup>: 0.94 (low)  
Markedly elevated ALP (1011), T4 0.8, USG 1.015 with 2+ protein, otherwise quiet sediment

Canine

**BREED**

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

Havanese

**Urinary System**

**SEX**

The **urinary bladder**, trigone, and pelvic urethra presented normal thicknesses and normal tone. The ureters were not visible which is normal. Small calculi and sand were noted in the bladder with a grouping of which measuring 1.5 cm. No evidence of inflammatory or neoplastic changes was noted. Ureteral papillae were normal.

Neutered male

**AGE**

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. Pinpoint mineralization was noted in both kidneys. The right kidney measured 4.4 cm. The left kidney measured 3.73 cm.

11 years

**WEIGHT**

14.7 lbs

**Adrenal Glands**

**INTERPRETED BY**

The left adrenal gland was mildly irregular and swollen at the caudal pole, although measured within normal limits, and visualized obliquely. The left adrenal gland measured 0.64 cm. The right adrenal gland was mildly irregular and at the upper limits of normal measuring 0.98 cm at the cranial pole and 0.85 cm at the caudal pole.

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

**IMAGING PERFORMED BY**

**Spleen**

Dr. Walker

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.

**HOSPITAL NAME**

Weddington AH

**REFERRING VET**

**Liver**

Dr. Walker

The **liver** was uniformly swollen. Occasional, hypoechoic nodule was noted and was non-disruptive. 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. There was no overt suspicion of neoplasia. The gallbladder and common bile duct were unremarkable.

**INVOICE**

76002

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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.

**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**

Renal calculi.

Mild to moderate degenerative renal changes.

Slightly irregular right adrenal gland.

Bladder sand.

Benign hepatopathy with occasional nodule.

**INTERPRETED BY**

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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Blood pressure measurements are warranted if not already obtained. An argument could be made for emerging PDH or right adrenal dependent Cushing's. If the patient appears Cushingoid and urine cortisone to creatinine ratio is elevated then a treatment trial for Cushing's can be considered.

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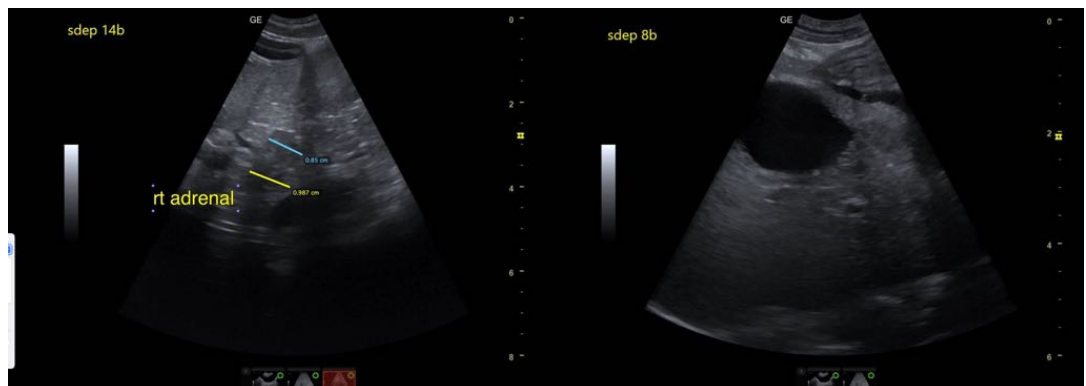
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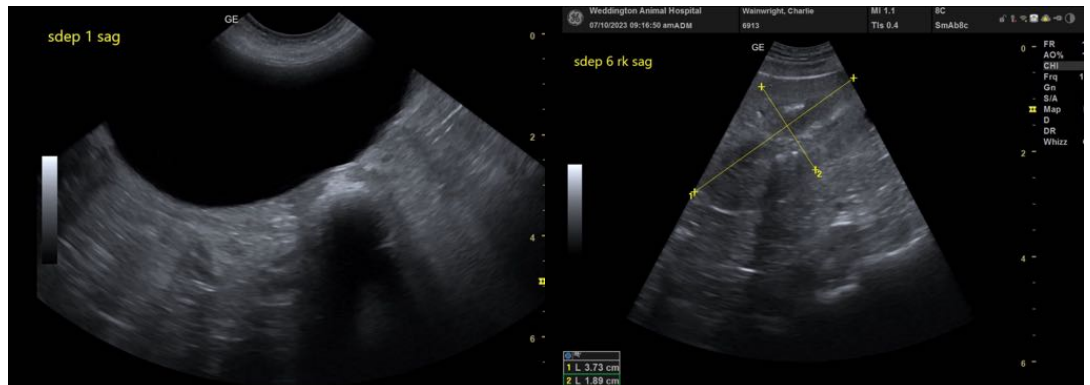
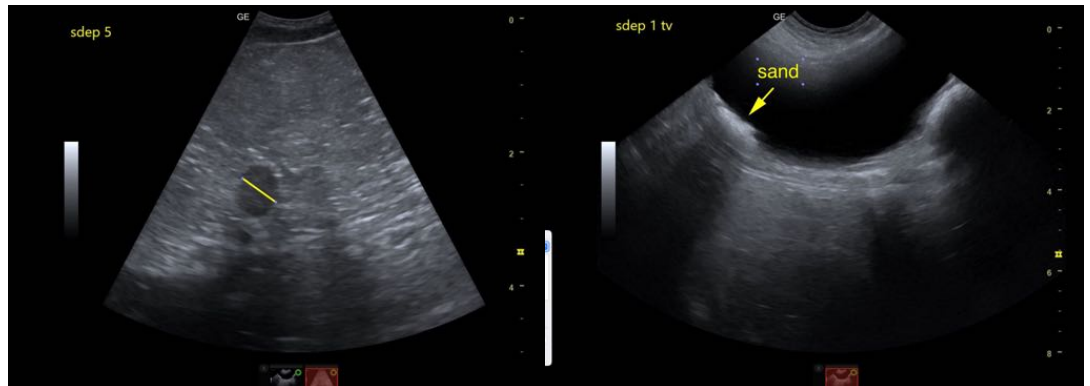
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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