



PATIENT PRESENTING CLINICAL SIGNS

Maddie Markham

History: P has hx of chronic ALP elevation. Has been tested for HAC at least twice. On Denamarin for several years. P should have been on ursodiol for last 4 months but did not refill. Recent hx of polyphagia and polydipsia. Changed diet from l/d to g/d in 12/2020. Previous bp was 156, most recent 166. planning on repeating.

SPECIES

Canine

8/25/21: CBC: WNL, Chem: ALP: 1167H, triglyc; 258, T4: 2.7, UA: SG: 1.025, 3+ prot, quiet sediment, UPC: 0.4 5/17/21: CBC: WNL, Chem: ALP: 796H, triglyc: 294T4: 1.8, UA: SG: 1.011, trace prot

BREED

Boston Terrier Mix

11/5/20: CBC: WNL, Chem: ALP: 960H, triglyc: 421H, T4: 2.0, UA: SG: 1.016, 2+ prot, UPC: 0.4 7/20: FULL AUS w Sonopath, PLEASE REFERENCE REPORT

SEX

Spayed Female

6/20/20: CBC: monos: 1463H, Chem: ALP: 1705H, triglyc: 293, T4: 2.9, UA: SG: 1.006, trace prot, C/S: NEG, LDDS: pre: 1.3, 4hr post: 0.3, 8hr post: 0.2

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

AGE

7 years

Adrenal Glands

The left adrenal gland is normal in size measuring 0.79 cm at the caudal pole It is observed in its normal position cranial to the left renal artery. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

WEIGHT

31 lbs

The right adrenal gland is normal in size measuring 0.42 cm at the caudal pole It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

INTERPRETED BY

Kathleen Sennello
DVM, MS, Diplomate
ACVIM (Small Animal
Internal Medicine)

Liver

The liver is subjectively large in size, and echogenicity with smooth peripheral margins. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary tract appear normal. No focal nodules or cystic lesions are observed. The gallbladder lumen is moderately distended. The wall of the gallbladder is not thickened and has a smooth mucosal surface. There is a moderate amount of non-organized echogenic debris and very small stones (0.26 cm, 0.24 cm). The cystic and common bile ducts are normal/not visible.

IMAGING PERFORMED BY

Megan Cassels-
Conway

HOSPITAL NAME

Central Broward AH

ULTRASONOGRAPHIC FINDINGS

PRIMARY FINDINGS:

- Large, heterogenous liver.
- Mild gallbladder sludge with small stones. The significance of the aggregated gallbladder debris is unclear. This could represent an early mucocele, cholestasis, or may be secondary to fasting. There is no apparent obstruction due to the very small stones.

REFERRING VET

Dr. Lezcano

INVOICE

91576

DATE

8/31/21



PATIENT

Maddie Markham

SPECIES

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BREED

Boston Terrier Mix

SEX

Spayed Female

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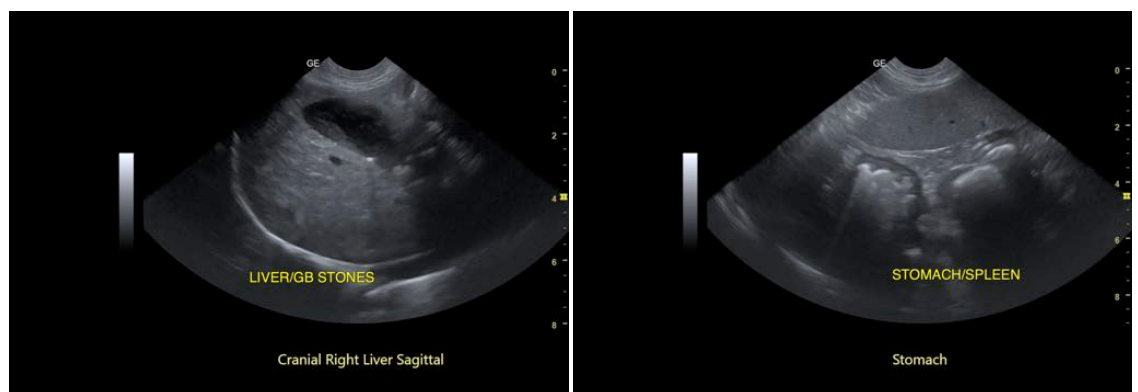
DATE

8/31/21

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

There is a large heterogenous liver present. The findings are most consistent with a vacuolar hepatopathy/remodeling, but sampling would be necessary to definitively determine this. The adrenal glands are not overtly enlarged making Cushing's more difficult to diagnose. If suspicion is strong you can consider testing for atypical Cushing's (adrenal panel with ACTH stimulation to University of Tennessee). These are things that I consider when working up a dog with a primary ALP elevation.

- Induction phenomena are the most common. These are systemic illnesses that 'turn on' the liver enzyme. Causes of this include Cushing's disease, dental disease, arthritis, and numerous others. In many cases the exact cause is unclear but as long as ultrasound and bile acids tests are normal most patients do not have progressive changes in their liver. While liver biopsy is not routinely performed, vacuolar hepatopathy, is noted on most biopsies. This is often non-progressive but in rare cases can be more severe and lead to liver failure.
- If signs of Cushing's disease are present recommend endocrine function testing to evaluate for Cushing's disease.
- Consider fine needle aspirate to rule out round cell neoplasia -if this is a concern.
- If a cause for the ALP elevation is not identified: I recommend recheck general blood work every 6 months, ultrasound once per year, and bile acids test every 1-2 years based on other results. If the ALP continues to climb a biopsy could be considered.
- Consider long term use of Denamarin, and monitoring for the signs of Cushing's developing.
- A primary vacuolar hepatopathy can be breed related and is seen in Scottish Terriers, Schnauzers, Cocker spaniels etc..





PATIENT

Maddie Markham

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Canine

BREED

Boston Terrier Mix

SEX

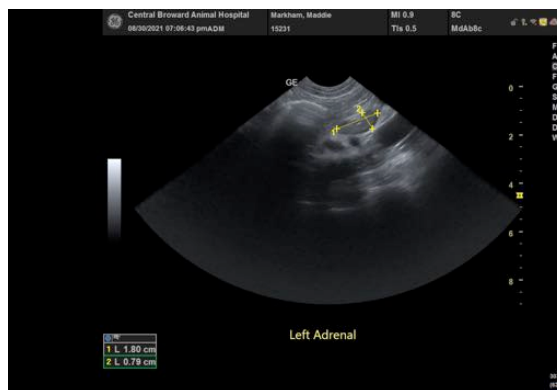
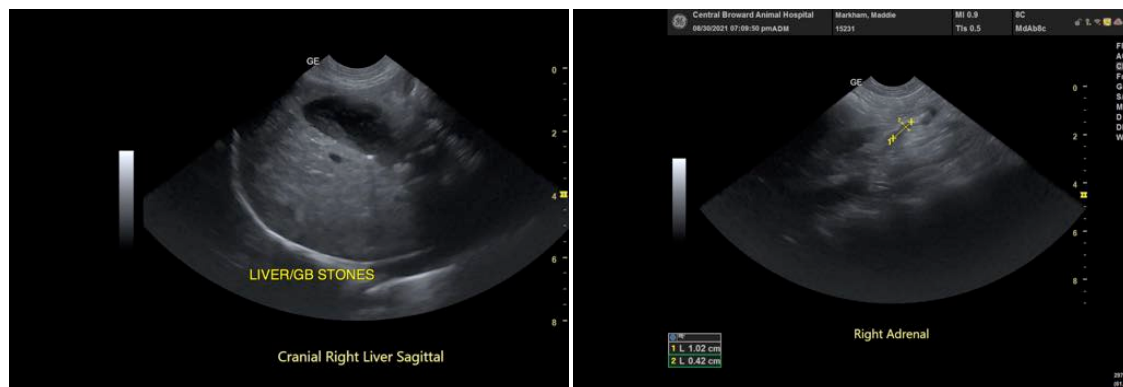
Spayed Female

AGE

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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.

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