



**PATIENT PRESENTING CLINICAL SIGNS**

Keena Jorgensen

History: Hx increased ALKP since 2020 with LDDS normal suppression. progressive increased ALKP with new increase ALT. occasional vomit/diarrhea. stable weight. stable dry cough. intermit rimadyl use for chronic DJD

**SPECIES**

Canine

Abnormal PE/Chem/CBC/UA Results: 2020 ALKP 923, alt `39, psl 728, normal LDDS. 2021 ALKP 1136, psl 251, 10/21 started rimadyl. 3/2022 cough/decreased appetite amoxi Pepcid. alpk 1360, chol 566, psl 315. started to limit rimadyl to prn. 3/2023. alpk 2434, ALT 121, chol 639, psl 256, T4 2.3, ua 1.036, UPC 2.2

**BREED**

Sheltie

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**SEX**

Spayed female

**Urinary System**

The **urinary bladder**, trigone, and pelvic urethra presented normal thicknesses and normal tone. The ureters were not visible which is normal. A minor amount of debris was noted. No evidence of inflammatory or neoplastic changes was noted. Ureteral papillae were normal.

**AGE**

11 years

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. Slight mineralization was noted in both kidneys and was non-obstructive at the time of the sonogram. The right kidney measured 5.23 cm. The left kidney revealed slight pyelectasia noted. The left kidney measured 4.67 cm.

**WEIGHT**

26 lbs

**INTERPRETED BY**

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

**Adrenal Glands**

Both **adrenal glands** were visualized and recognized as having largely normal shape, size, position and acceptable echogenicity for this age group and breed. Some heterogeneity was noted within the adrenal parenchyma without concerning capsular distortion. These changes are likely age related but should be monitored by sonogram should the patient be suspected of having adrenal disease. The left adrenal gland measured 0.7 cm at the caudal pole and 0.71 cm at the cranial pole. The right adrenal gland measured 0.9 cm.

**IMAGING PERFORMED BY**

Dr. Arms

**HOSPITAL NAME**

Gilbertsville VH

**Spleen**

**REFERRING VET**

Dr. Arms

The **spleen** revealed a hypoechoic 0.81 x 0.62 cm nodule at the mid body with a separate 1.68 x 1.96 cm expansive, irregular mixed, hypoechoic nodule in the mid body. Other hypoechoic nodular changes were noted in the spleen.

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**Liver**

The **liver** was uniformly swollen. 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. A left-sided liver mass was noted and was isoechoic to mildly hyperechoic. The mass measured 4.4 x 2.8 cm and was adjacent to the falciform fat.

**DATE**

4/18/23



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Other heterogenous changes were noted in the liver. The hepatic lesions and splenic lesions are likely not related. The gallbladder revealed sludge with a minor polyp.

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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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Sheltie

**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**

11 years

**ULTRASONOGRAPHIC FINDINGS**

**WEIGHT**

26 lbs

Splenic nodules, round cell neoplasia, stromal tumor, hyperplasia, emerging hemangiosarcoma is possible.

Vacuolar hepatopathy with nodular hyperplasia liver pattern with left-sided pronounced nodular mass, possible low-grade carcinoma.

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Age related pancreatic and adrenal changes.

Moderate degenerative renal changes with non-obstructive nephrolithiasis.

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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

**HOSPITAL NAME**

Gilbertsville VH

Screening FNA of the liver or biopsy at the time of splenectomy is recommended. Ultrasound-guided FNA of the liver lesions and splenic lesions are recommended as a screening process or direct splenectomy and liver inspection and biopsy is indicated. There are multiple nodular changes noted in the liver; however, they are not significantly disruptive and are likely low-grade or benign.

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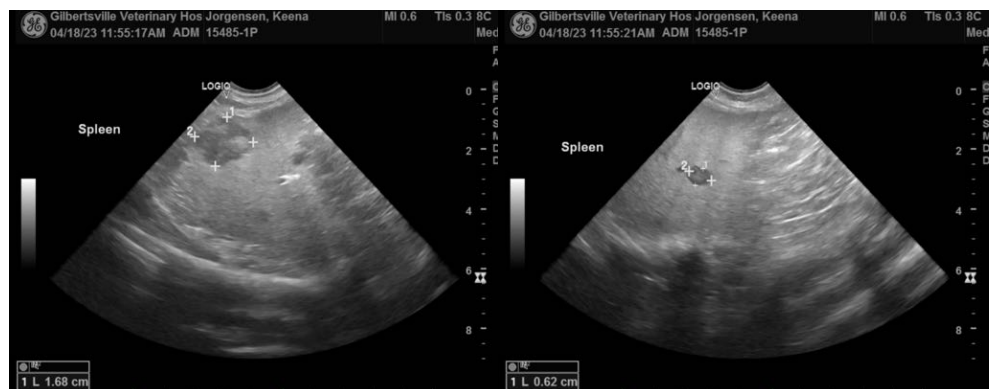
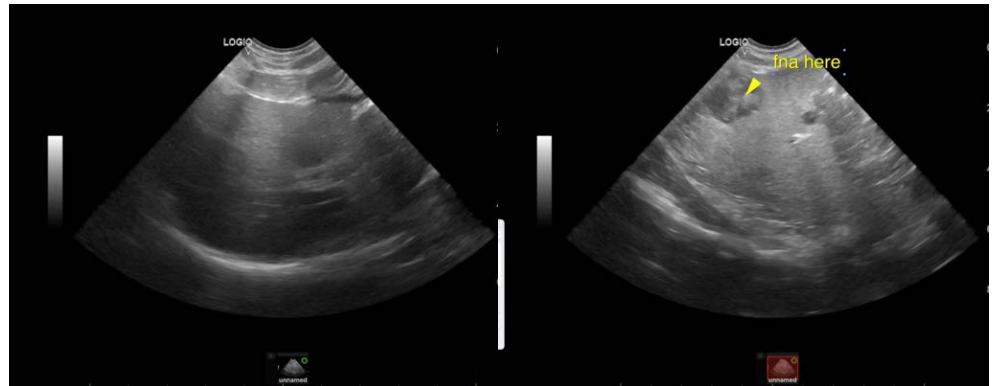
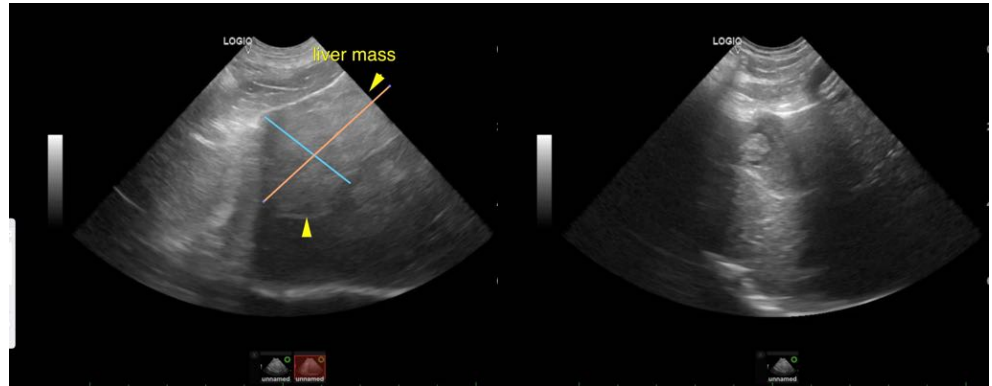
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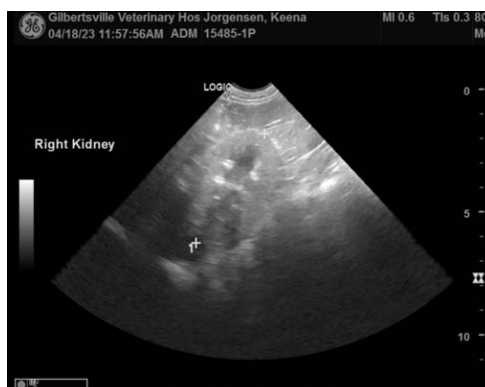
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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  
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