



PATIENT

Gunther Garrett

PRESENTING CLINICAL SIGNS

history of hepatopathy mildly reactive liver ALT and ALP , AUS for evaluation
Abnormal PE/Chem/CBC/UA Results: Recent blood work shows increasing liver values. ALT 134 (N 18-121), ALP 377 (N 5-160)

SPECIES

Canine

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

BREED

Australian Blue Heeler

The urinary bladder is moderately distended with anechoic urine. The Bladder wall, trigone, ureteral papillae and visible urethra (to a depth of 2cm) appear normal with no evidence of wall thickening, mucosal irregularities, masses or cystic calculi.

SEX

Neutered male

The prostate is normal in size (0.73 cm) and shape for this neutered male dog. The parenchyma is homogenous and the external margins are smooth. The prostatic urethra appears normal with no evidence of irregularity, invasion, mass effect or calculi.

AGE

12 years

The right kidney has a normal shape and size (5.91 cm). Overall echogenicity is slightly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

WEIGHT

17.4 kg

The right kidney has a normal shape and size (5.93 cm). Overall echogenicity is slightly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

INTERPRETED BY

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

Adrenal Glands

The left adrenal gland is normal in size measuring 0.62cm 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.

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Dr. Barnes

The right adrenal gland is normal in size measuring 0.67 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.

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Spleen

The spleen is subjectively normal in size, echotexture is homogenous, and the splenic capsule is smooth with no irregularities. The blood flow through the hilus and splenic parenchyma appears normal. No focal parenchymal abnormalities are visualized.

REFERRING VET

Dr. Barnes

Liver

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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. There are numerous hypoechoic nodules visualized in the parenchyma varying in size from 0.5-2.5 cm. There is a larger mass effect visualized in the left side of the liver. None of these lesions deformed the hepatic margins. The three smaller nodules measured 0.91 x

DATE

2/23/22



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1.93 cm, 0.99 x 1.25 cm and 1.2 x 1.69 cm. The largest nodule measured 1.48 x 2.3 cm. 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. The cystic and common bile ducts are normal/not visible.

SPECIES

Canine

Gastrointestinal

BREED

Australian Blue Heeler

The stomach contains minimal luminal contents. It measures at a normal thickness of <0.7cm with some variability due to the presence of rugal folds. The distinction of the gastric wall layers is adequate and there is no impression of reduced peristaltic activity. No masses or focal lesions were observed.

SEX

Neutered male

The visualized areas of duodenum, jejunum and ileum have a relatively uniform diameter with minimal fluid distension. Wall thickness is normal. Bowel loops follow a curvilinear path with distinct wall layering maintaining the typical 1:3 muscularis:mucosa layer ratio. The duodenum measured as normal (between 0.3-0.5cm in wall thickness) and the jejunum measured as normal (between 0.2-0.47cm.) Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

AGE

12 years

The ileocecal junction was visualized and exhibited normal intact wall layering and is subjectively of normal thickness. Sections of colon are visualized with formed fecal material and gas shadowing distally. There is no observed focal or generalized colon wall thickening or loss of layering.

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Pancreas

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The pancreas is normal and isoechoic to surrounding mesentery. There is no evidence of nodules or cystic lesions. There is no evidence of regional mesenteric inflammation or fluid.

IMAGING PERFORMED BY

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Free Abdomen

Evaluation of the peritoneal cavity did not reveal any evidence of effusion, or subjective lymphadenomegaly. The Medial iliac nodes appear normal and there was no evidence of a caudal aortic thrombus at the bifurcation. The omentum is of normal uniform echogenicity.

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ULTRASONOGRAPHIC FINDINGS

PRIMARY FINDINGS:

- Large heterogenous liver with hypoechoic nodules/masses. These nodules are numerous and relatively large in size, but they do not appear to be displacing normal parenchyma or effecting the margins turning towards a more benign appearance.

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SECONDARY FINDINGS:

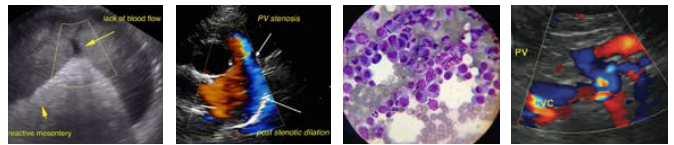
- Mildly decreased corticomedullary distinction in both kidneys. The bilateral renal findings are consistent with age-related change.
- Mild gallbladder debris. The significance of the aggregated gallbladder debris is unclear. This could represent an early mucocele, cholestasis, or may be secondary to fasting.

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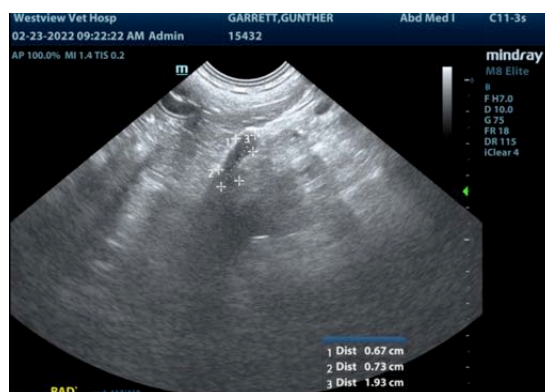
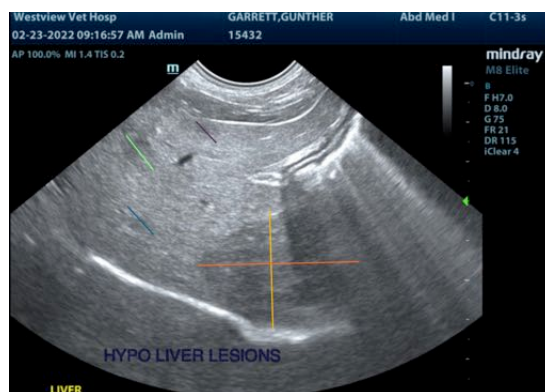
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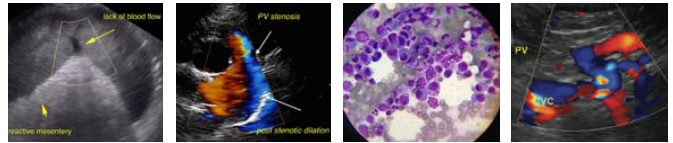
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

There are changes within the liver parenchyma visualized and are non-specific. These are hypoechoic nodules, but they generally have a somewhat benign appearance.

- Recommend pre and post prandial bile acids to evaluate liver function.
- Recommend a FNA of the liver/hypoechoic nodule if possible.
- Recommend generic treatment for hepatopathy including Ursodiol, Denamarin and a round of Amoxicillin.
- If there is no response to these therapies and liver function is abnormal consider obtaining a liver biopsy for histopathology, culture and copper levels.

Consider three view thoracic radiographs to rule out concurrent thoracic disease/involvement.





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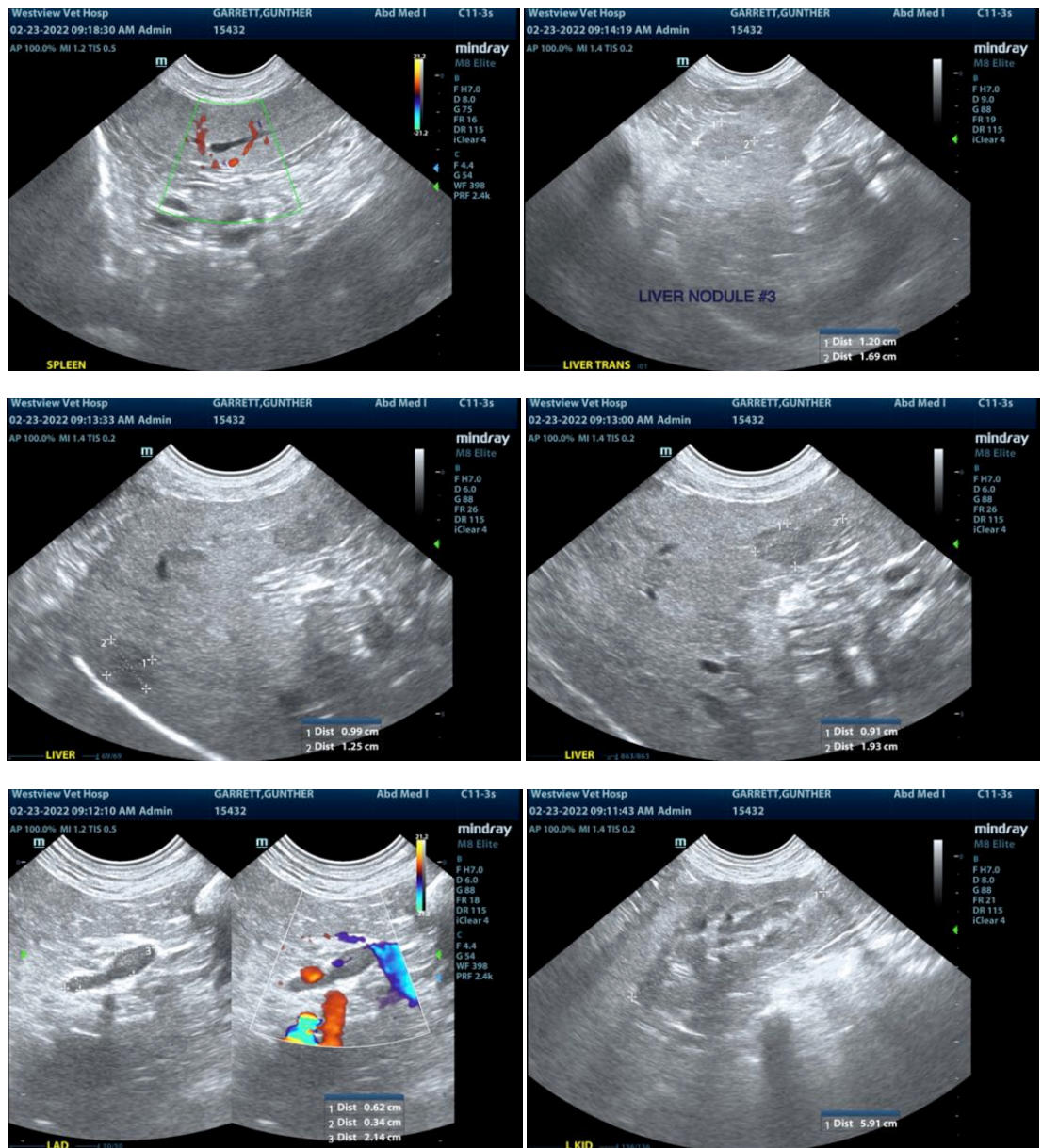
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Kathleen Sennello DVM,MS, Diplomate ACVIM (Small animal Internal Medicine)
kathleen.sennello@sonopath.com