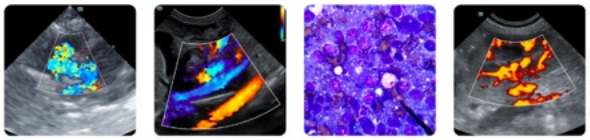


PATIENT

Appa Abadzic

SPECIES

Canine

BREED

Bichon Mix

SEX

Neutered male

AGE

14 years

WEIGHT

16.6 lbs

INTERPRETED BY

Alicia Angosto Guerrero, DMV, PgDip, MSc.

IMAGING PERFORMED BY

Anshu Gupta

HOSPITAL NAME

Liverpool Village AH

REFERRING VET

Dr. Holtze

INVOICE

74240

DATE

4/7/26

PRESENTING CLINICAL SIGNS

- Presented to ER 3 weeks ago for vomiting, diarrhea, elevated liver enzymes
- Improved with Denamarin, Metronidazole, Clavamox, regressed after finishing medications
- Azotemia: Creat 2.3, BUN 72 ALP 3753, GGT 16

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is adequately distended. The bladder wall appears mildly thickened (3 mm), particularly along the cranial aspect. The luminal contents are anechoic, with a small urolith measuring 1.90 mm. The bladder neck and proximal urethra have a normal appearance.

The left kidney is normal in shape and size, measuring 4.24×2.23 cm in the sagittal plane. Cortical thickness is 0.45 cm. The right kidney is normal in shape and size, measuring 4.08×2.14 cm in the sagittal plane. Cortical thickness is not recorded.

In both kidneys, the cortex is isoechoic compared to the hepatic parenchyma. The corticomedullary ratio is within normal limits, and corticomedullary definition is preserved. A marked medullary rim sign is present. There is no evidence of pyelectasia, nephrolithiasis, or hydronephrosis. Color Doppler demonstrates a normal vascular pattern.

Prostate

The prostate measures 1.41×0.90 cm, is homogeneous and hypoechoic, consistent with post-castration atrophy.

Adrenal Glands

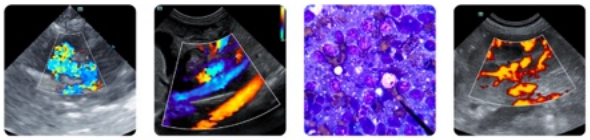
The left adrenal gland measures 0.50 cm at the cranial pole and 0.46 cm at the caudal pole, within expected limits. The right adrenal gland is not confidently visualized.

Spleen

Splenic thickness is 1.16 cm. The parenchyma demonstrates normal echogenicity and fine homogeneous echotexture without focal parenchymal abnormalities. The splenic capsule is smooth and regular.

Liver

The liver is subjectively enlarged, with rounded margins and a mildly irregular contour. A large, heterogeneous mass measuring approximately 9×5×6 cm is identified within the region of the right hepatic lobes. The mass demonstrates irregular, infiltrative margins. The remaining hepatic parenchyma



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appears relatively homogeneous, with mildly increased echogenicity in some areas but no clearly defined additional nodules.

The gallbladder is moderately distended. The wall is thin and regular. The luminal contents are anechoic. No biliary dilation is identified.

Gastrointestinal

The stomach is empty and folded, with a wall thickness of 2.20 mm and preserved layering. Duodenum: 3.46 mm. Jejunum: 3.41 mm, with mucosa 2.27 mm, submucosa 0.87 mm, and muscularis propria 0.33 mm. Wall layering is preserved. No evidence of ileus, obstruction, or intraluminal foreign material is identified. Colon measures 1.06 mm, containing soft fecal material.

Pancreas

The evaluated pancreatic areas do not show evidence of overt inflammation or neoplastic disease.

Free Abdomen

No sonographic evidence of abdominal effusion, peritonitis, or lymphadenomegaly is identified. The iliac trifurcation appears normal.

PRIMARY FINDINGS

- Large hepatic mass (≈9×5×6 cm), heterogeneous, with irregular and infiltrative margins.
- Mild hepatomegaly with rounded margin.

SECONDARY FINDINGS

- Mild cranial bladder wall thickening (3 mm) with small urolith (1.90 mm).
- Marked bilateral medullary rim sign.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The dominant finding in this study is a large, heterogeneous hepatic mass with irregular and infiltrative margins, located within the right hepatic lobes. The size, heterogeneity, and poorly defined margins of this lesion are highly concerning for a primary hepatic neoplasm.
In dogs, the most relevant differential diagnoses for a lesion of this nature include:

- Hepatocellular carcinoma (particularly massive form)
- Cholangiocarcinoma.

The infiltrative appearance raises concern for malignant behavior, although definitive characterization cannot be achieved with ultrasound alone. The remainder of the hepatic parenchyma does not demonstrate clear multifocal nodular disease, which may support a primary rather than metastatic

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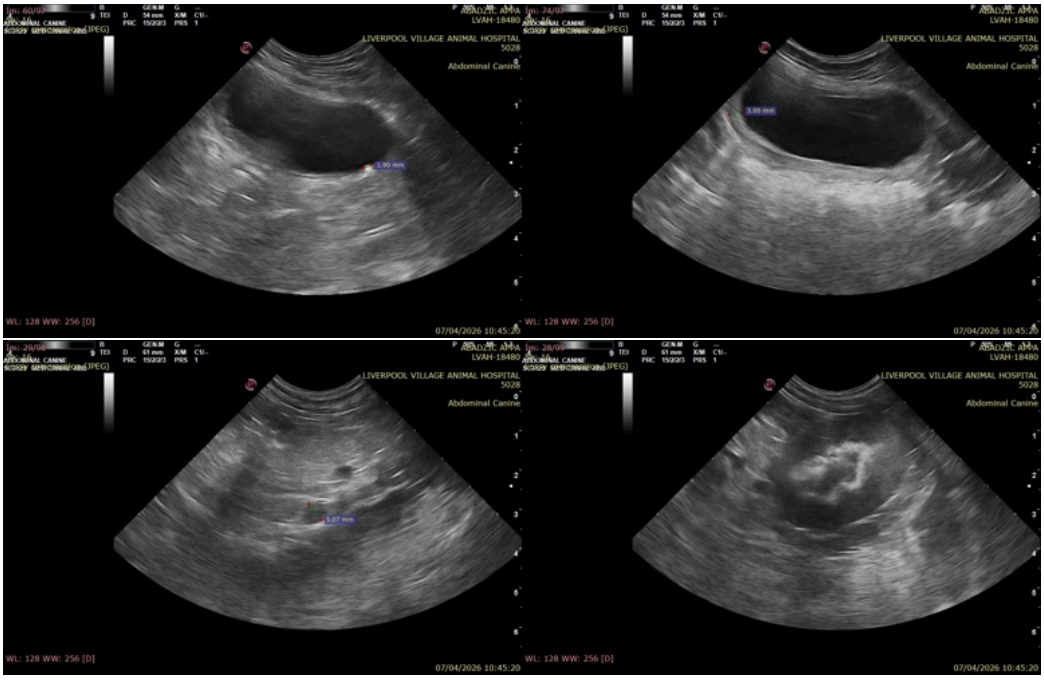
process, although this cannot be confirmed.
There is no clear evidence of biliary obstruction, despite the marked elevation in ALP and GGT.

The kidneys show a marked medullary rim sign, which is a nonspecific finding and may be seen in both normal and diseased kidneys, including early renal change or metabolic conditions. In the context of mild azotemia, this may represent early or chronic renal change, although it is not the primary clinical concern.
The urinary bladder shows mild focal wall thickening and a small urolith, which are likely incidental findings in this context.
Overall, the findings are highly suspicious for a primary hepatic neoplasm, which likely explains the marked elevation in liver enzymes and the clinical course.

Recommendations

- Ultrasound-guided fine-needle aspiration or biopsy of the hepatic mass is strongly recommended for definitive diagnosis.
- Consider coagulation profile prior to sampling, given the hepatic involvement.
- Thoracic imaging (radiographs or CT) is recommended for staging.

Final diagnostic and therapeutic decisions should be made by the attending veterinarian, who can best integrate these findings with the patient's clinical status.



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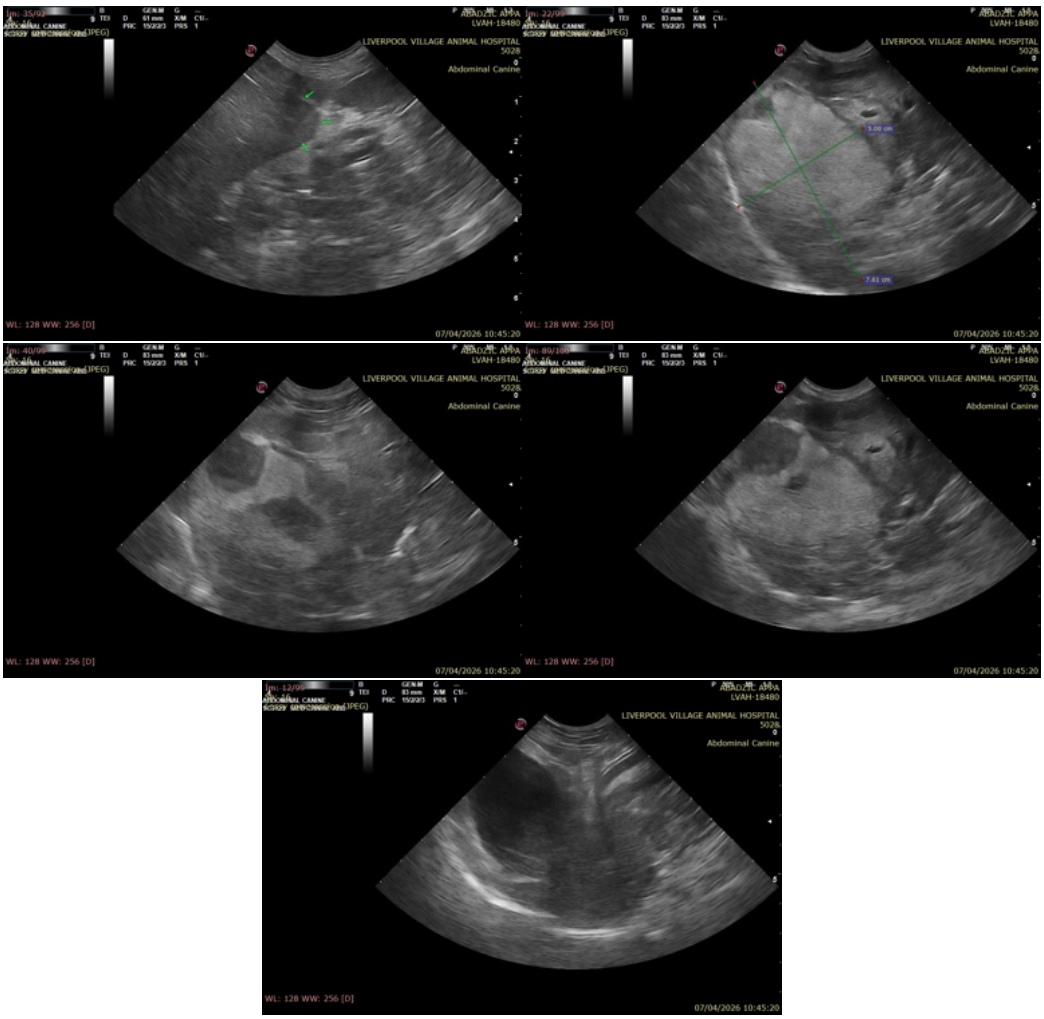

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Alicia Angosto Guerrero, DMV, PgDip, MSc.

info@SonoPath.com