



PATIENT

Avery Rae

SPECIES

Canine

BREED

Shih Tzu mix

SEX

Female, spayed

AGE

11 Yrs. 9 months

WEIGHT

9.2 kg.

INTERPRETED BY

Andrea Nicastro, DVM,
Diplomate ACVIM
(Small Animal Internal
Medicine)

IMAGING PERFORMED BY

Dr. Brian Barnes

HOSPITAL NAME

Westview VH

REFERRING VET

Dr. Brian Barnes

INVOICE

13033

DATE

PRESENTING CLINICAL SIGNS

History: Dog has massive increase ALP, Noted on senior wellness exam.

Abnormal PE/Chem/CBC/UA Results: CBC, increased platelets 1118 (N 143-448), decreased Neuts and lymphs Chem: SDMA 16 (N 0-14), Urea 12.6 (N 3.2-11), Creat Normal CA 3.1 (N 2.2-2.8), K elevated TP 82 (N 55-75), Alb 46 (N 27-39), Alt 373 (N 18-121), ALP 5379 (N 5-160), GGT 600 (N 0-13), USG 1.037, proteinuria 3+, allergic skin disease- chewing toes, small dermal masses dental disease, distended abdomen heart murmur- gr 3/6, Normal BNP enlarged liver

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder, trigone, and pelvic urethra are normal in thickness and the mucosal surface is smooth. The bladder lumen is moderately distended. A small amount of suspended echogenic debris is observed within the lumen. No masses, inflammatory changes or calculi are observed. Ureteral papillae and visualized portion of the proximal urethra, visible to a depth of 2 cm, are normal.

The left kidney is normal size (5.13 cm in length); normal shape and architecture with smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with mild to moderate loss of corticomedullary distinction. The cortex is hyperechoic to slightly heterogeneous with pinpoint hyperechoic foci. Hyperechoic shadowing diverticular foci are also seen. Tiny cortical cysts seen. There is no evidence of pyelectasia, infarcts or hydroureter. Renal vasculature is normal.

The right kidney is normal size (5.99 cm in length); normal shape and architecture with smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with mild to moderate loss of corticomedullary distinction. The cortex is hyperechoic to slightly heterogeneous with pinpoint hyperechoic foci. Hyperechoic shadowing diverticular foci are also seen. Tiny cortical cysts are seen. There is no evidence of pyelectasia, infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is enlarged (0.94 cm at cranial pole) (1.16 cm at caudal pole) (2.27 cm in length) with a slightly irregular shape. The glandular echogenicity and detail are unremarkable. Capsule, cortex, and medullary definition are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

The right adrenal gland is enlarged (0.99 cm at cranial pole) (0.91 cm at caudal pole) (2.60 cm in length) with a slightly irregular shape. A 1.58 x 0.92 cm irregular, hyperechoic to heterogeneous nodule is observed at the cranial pole. Glandular echogenicity and detail at the caudal pole are normal. Surrounding vasculature appears normal.

Spleen

The spleen is normal in size (1.24 cm in width at the level of the hilus) with a normal capsular contour. There is appropriate echogenicity and echotexture. Numerous pin point hyperechoic to mineralized foci are observed throughout the organ. Splenic vasculature is normal.

Liver



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The liver is enlarged with irregular peripheral contours. A >9 cm heterogeneous mass is arising from the caudal aspect. In the remainder of the liver, the parenchyma is heterogeneous with ill-defined hyperechoic nodules. Cavitated areas are observed within the mass. A 4.34 x 3.71 cm heterogeneous mass is also arising from the left lateral lobe. Vascular and biliary tracts are of normal volume with no evidence of congestion. The gall bladder is cranially displaced by the large hepatic mass. The gallbladder lumen is moderately distended. The wall is normal in thickness. A moderate amount of aggregated echogenic suspended sludge in a stellate pattern is observed within the lumen. The cystic and common bile ducts are normal/not seen.

Gastrointestinal

The stomach and intestine are free of stasis and exhibit normal peristaltic activity. The gastric lumen is mildly fluid distended. The gastric wall and pylorus are normal in thickness with a normal layering pattern. The pyloric outflow tract is patent. The small intestinal lumen is not dilated. The small intestinal wall thickness is normal with a normal layering pattern and appropriate mural detail. Discreet masses are not identified. The colonic wall is normal. No obstructive disease is noted.

Pancreas

A portion of the pancreas is obscured by the large hepatic mass. In the visualized portions, the pancreas is subjectively normal in size with normal curvilinear peripheral contours. The parenchyma is largely isoechoic relative to surrounding omental fat and slightly mottled in appearance. No distinct focal lesions are observed. The pancreatic duct is not overtly dilated.

Free Abdomen

The peritoneal cavity is normal. There is no evidence of inflammation or effusion. The abdominal lymph nodes are normal/not visible.

ULTRASONOGRAPHIC FINDINGS

Primary Findings:

- Large hepatic masses (2). Neoplasia (i.e., adenocarcinoma, adenomas) is considered likely with a lower possibility of benign pathology (i.e., regenerative nodular hyperplasia).
- The gallbladder changes are consistent with a mucocele.
- Bilateral adrenomegaly. The right adrenal nodule trends toward the benign (i.e., nodular hyperplasia). However, an emerging tumor cannot be completely excluded.

Secondary Findings:

- Bilateral age-related renal changes with dystrophic mineralization.
- Dystrophic mineralization of the spleen. This is a benign incidental finding commonly seen with endocrinopathies.
- Minor age-related pancreatic remodeling.



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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

- Three-view thoracic radiographs are recommended to assess for pulmonary metastases.
- If an aggressive approach is desired, consider consultation with a board-certified surgeon to discuss mass removals or debulking. An abdominal CT scan would be useful in pre-surgical planning. Given that there are at least 2 masses within the liver however, the prognosis is considered guarded and palliative care should be considered.
- Regarding the adrenal changes, a baseline blood pressure measurement and UPC can be considered. Testing for Cushing's disease is also an option. However, given the presence of the large liver masses, it may not be reasonable to pursue testing at this time.





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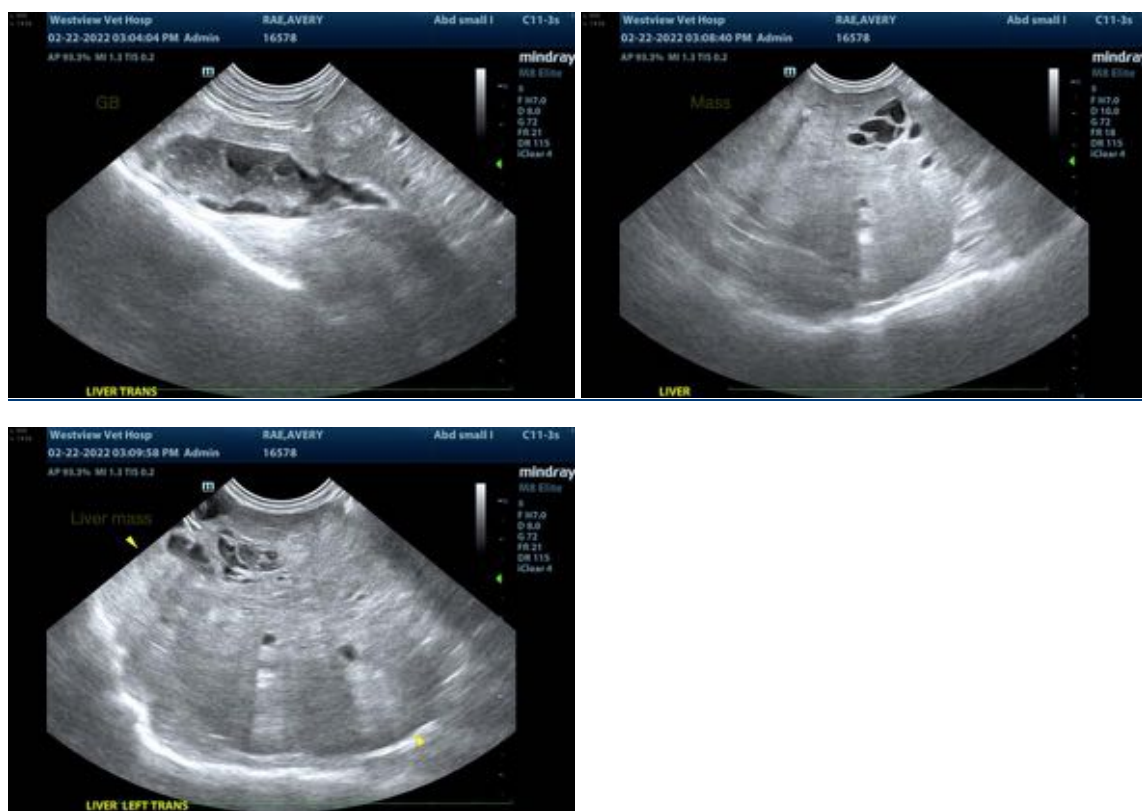
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Andrea Nicastro, DVM, Diplomate ACVIM (Small Animal Internal Medicine)

Andrea.nicastro@sonopath.com