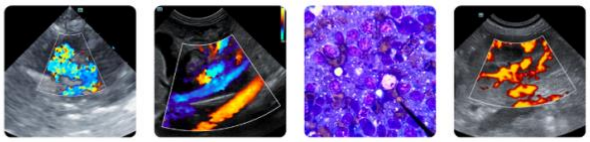


PATIENT

Pika Wu

SPECIES

Canine

BREED

Pomeranian Mix

SEX

Neutered Male

AGE

13

WEIGHT

21.6 lbs

INTERPRETED BY

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

IMAGING PERFORMED BY

Saum Hadi

HOSPITAL NAME

Nimbus PH

REFERRING VET

Saum Hadi

INVOICE

22528

DATE

2-7-26

PRESENTING CLINICAL SIGNS

History: P presents with increasing liver enzymes. Previous AUS through Sonopath revealed a possible early mucocele. Positive response, deceased ALKP after initiation of ursodiol. At last recheck however, both ALKP and ALT have further increased

Abnormal PE/Chem/CBC/UA Results: Mild neutrophilia, lymphocytosis, monocytosis, thrombocytosis Mild to Moderate ALT increase: 286 U/L Moderate ALKP increase: 699 U/L USG: 1.022 AST, GGT, t.bili WNL

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is mildly distended with mostly anechoic urine. The wall in the region of the apex is moderately thickened (up to 0.49 cm) with a slightly irregular mucosal surface. The wall tapers to a normal thickness as it extends towards the cystourethral junction. No cystic calculi are observed. The region of the trigone and visible portion of the proximal urethra are normal.

The prostate is normal in size (0.74 cm in width) and shape. Parenchyma is homogenous. The prostatic urethra appears normal without evidence of dilation or obstruction.

The left kidney is normal in size (5.02 cm in length) with a normal shape, architecture and smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with mild to moderate loss of corticomedullary distinction. Several small, mineralized foci are visualized. A 0.58 x 0.40 cm septated cortical cyst is observed at the caudal aspect. There is no evidence of pyelectasia, infarcts or hydroureter.

The right kidney is normal in size (5.21 cm in length) with a normal shape, architecture and smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with mild to moderate loss of corticomedullary distinction. A few mineralized foci are visualized. There is no evidence of pyelectasia, infarcts or hydroureter.

Adrenal Glands

The left adrenal gland is normal in size at the cranial pole and enlarged at the caudal pole (0.52 cm at cranial pole) (0.74 cm at caudal pole). At the caudal aspect, a 0.74 x 0.72 cm hyperechoic-to-heterogenous nodule is visualized. Glandular echogenicity and detail at the cranial pole are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

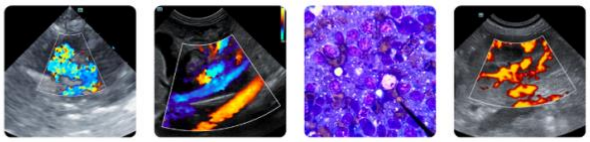
The right adrenal gland is enlarged (1.04 cm at cranial pole) (0.74 cm at caudal pole) with slightly swollen peripheral contours. Glandular echogenicity and detail are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

Spleen

The spleen is subjectively prominent-in-size with irregular peripheral contours. Approximately mid-body, a 1.4 x 1.3 cm hypoechoic-to-heterogenous expansile nodule is visualized. Just caudal to this nodule, a 1.2 x 0.6 cm hypoechoic-to-heterogenous expansile nodule is seen. A few, small myelolipomas are also present in the region of the hilus. The remaining parenchyma is homogenous in appearance. Splenic vasculature appears normal with no evidence of thrombosis.

Liver

The liver is subjectively enlarged, with swollen peripheral contours. The parenchyma is isoechoic relative to the spleen and mildly heterogenous in appearance. A 4.4 x 3.1 cm isoechoic-to-heterogenous swelling/mass is observed on the right side. Hepatic vasculature and intrahepatic biliary tracts are of normal volume with no evidence of congestion.



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The gallbladder is moderately distended. The wall is normal in thickness. Several, small, polypoid-like lesions are arising from the mucosal surface. A small-to-moderate amount of aggregated, echogenic, partially dependent debris/sludge is observed within the lumen. The cystic and common bile ducts are normal/not seen.

Gastrointestinal

The gastric lumen is not 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 is normal in thickness with retention of normal layering. There is evidence of mucosal striations in some segments. Discreet masses are not identified. The colonic wall is normal. There is no obvious evidence of an obstructive pattern.

Pancreas

The right limb of the pancreas is visible with normal curvilinear peripheral contours. The parenchyma is largely isoechoic relative to surrounding omental fat and slightly mottled in appearance. The pancreatic duct is visible but not overtly dilated. There is no evidence of peripancreatic inflammation or effusion.

Lymph Nodes

A 0.84 x 0.28 cm medial iliac lymph node is visualized.

Free Abdomen

There is no obvious evidence of free fluid.

ULTRASONOGRAPHIC FINDINGS

Primary Findings

- Right hepatic swelling/mass. Neoplasia (i.e., adenoma, adenocarcinoma, round cell tumor, sarcoma) is suspected. How a benign process (i.e., large regenerative nodule, inflammatory focus) cannot be excluded. The diffuse hepatic parenchymal changes are nonspecific and could be secondary to regenerative nodular hyperplasia, vacuolar hepatopathy, age-related parenchymal remodeling, inflammatory disease, hepatotoxicosis (i.e., copper), fibrosis, infiltrative neoplasia, and/or other hepatopathy.
- The gallbladder changes are consistent with an emerging mucocele.
- Splenic nodules (previously-observed, similar in size). These lesions could be consistent with neoplasia (i.e., sarcoma, round cell tumor) or a benign process (i.e., lymphoid hyperplasia or similar. Given that they are similar in size compared to the sonogram performed over three years ago, a benign process is favored.
- Bilateral adrenomegaly. The left adrenal nodule could be consistent with focal nodular hyperplasia, adenoma, emerging adenocarcinoma, pheochromocytoma, other.

Secondary Findings

- Bilateral nonspecific age-related renal changes with nonobstructive nephrocalcinosis
- The pancreatic changes are most consistent with age-related parenchymal remodeling, potentially secondary to a prior inflammatory episode, early fibrosis or chronic pancreatitis.

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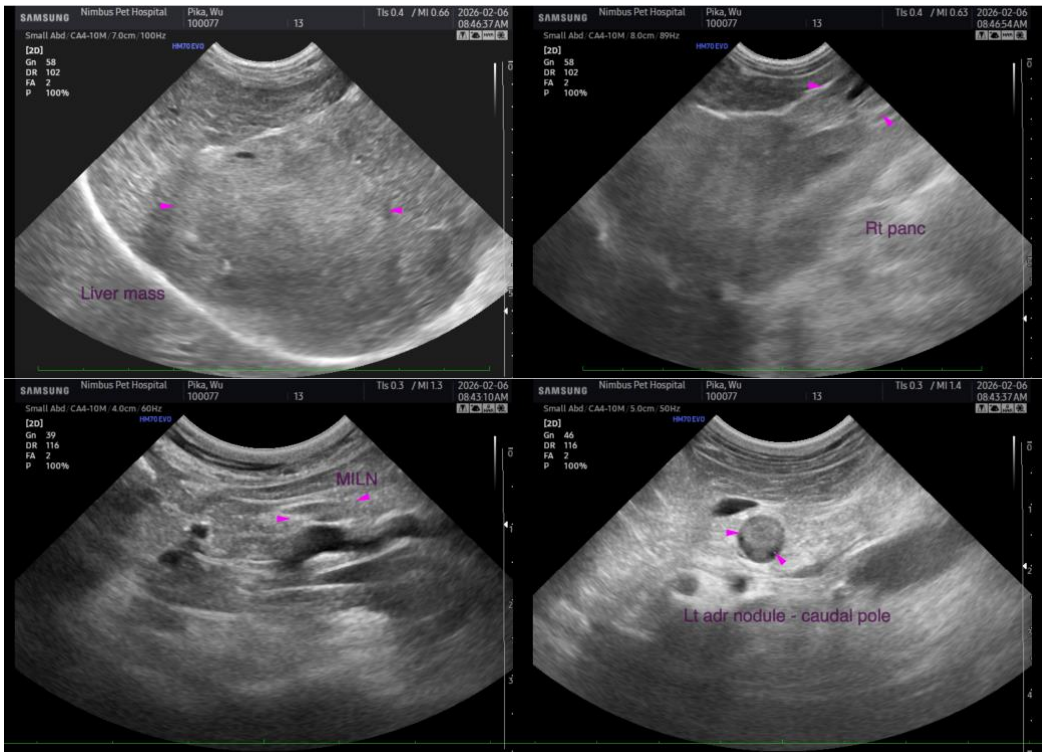
- The urinary bladder wall changes could be consistent with cystitis or may be artifactual due to lack of full repletion. Correlation with the patient's clinical history and urinalysis findings is recommended.
- The small intestinal mucosal striations are suggestive of a protein-losing enteropathy (such as lymphangiectasia or inflammatory bowel disease). However, correlation with the patient's clinical history is recommended.
- The prominent medial iliac lymph node is likely reactive, with a lower possibility of more insidious pathology.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

- Regarding the hepatic mass, if there is no evidence of pulmonary metastatic disease, consider a consultation with a board-certified surgeon to discuss mass removal or debulking. An abdominal CT scan would be useful in presurgical planning. If surgery is pursued, consider a splenectomy with submission of the spleen for histopathology. An aspirate of the hepatic mass could be performed prior to surgery, if accessible, and if clotting status is appropriate). A 25-gauge needle should be used. However, it should be noted it can be difficult to distinguish hyperplasia from adenoma from adenocarcinoma cytologically, and histopathology may be necessary to get a definitive diagnosis.
- Consider testing for hyperadrenocorticism with a low-dose dexamethasone suppression test or ACTH stimulation test if clinical signs (i.e., PU/PD) develop in the future.
- Regarding the left adrenal nodule, consider a recheck ultrasound in 2-3 months to assess for growth of the lesion. Also consider a baseline blood pressure measurement to evaluate for systemic hypertension.



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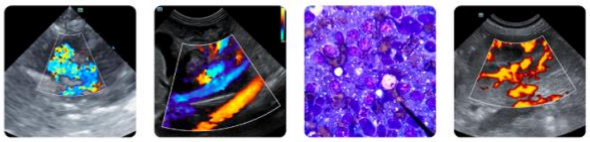

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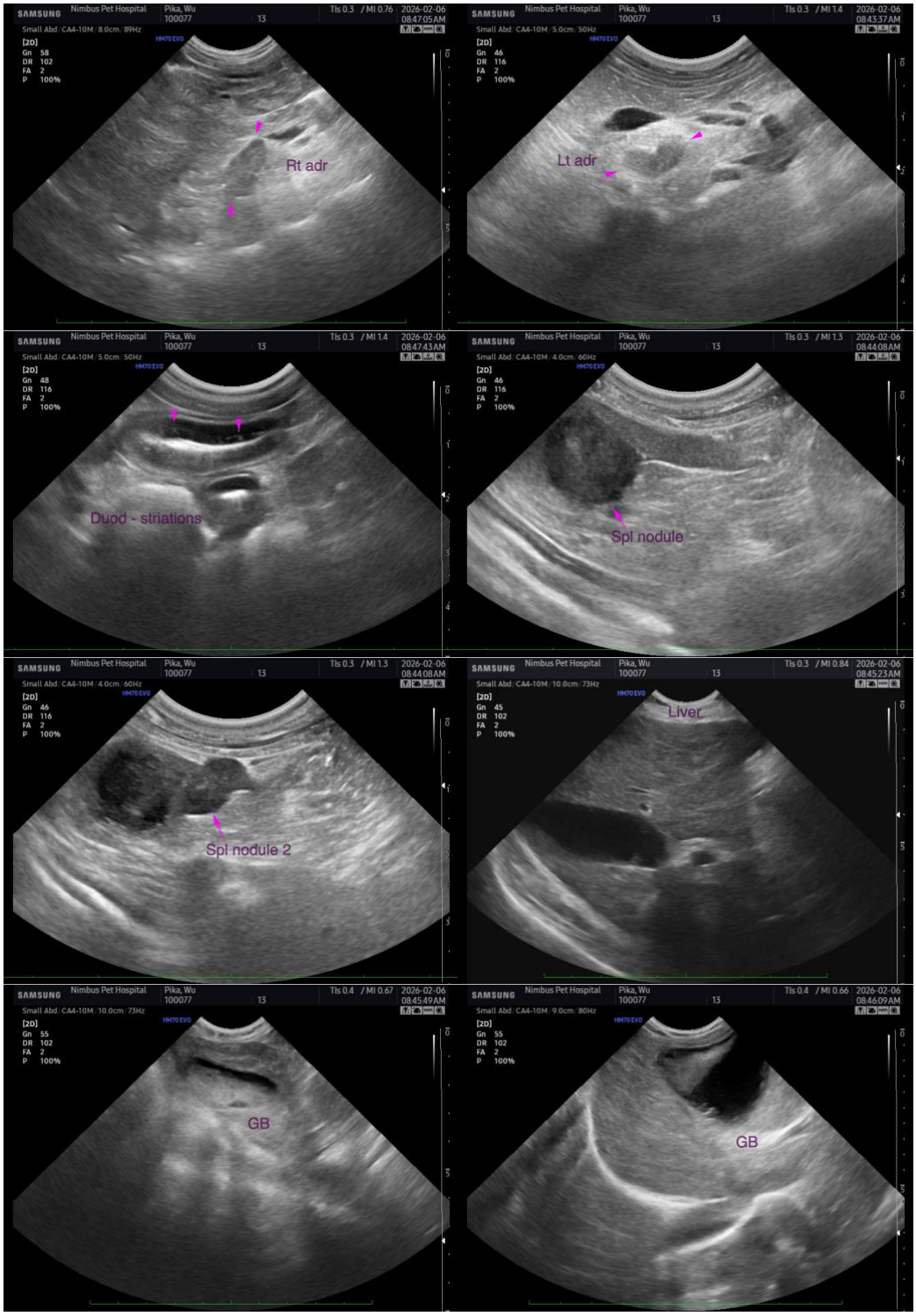

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in

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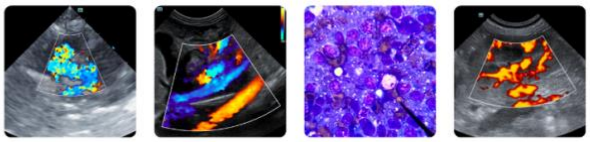

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the image/video clips provided.

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, MPH, DVM, Diplomate DACVIM (Small Animal Internal Medicine)
info@SonoPath.com