

PATIENT PRESENTING CLINICAL SIGNS

Bella Smith History: Patient presented for recheck skin and ulcerative growth on left side of face. Still trying to rub growth on face but rest of her skin looks much better.

SPECIES Abnormal PE/Chem/CBC/UA Results: CBC: Elevated platelets Chem: Elevated ALP 3261, ALT 431, AST 71, GGT 14 Suspect Cushing's based on history (PU/PD) and suspect secondary cholecystitis.
Canine Recommend AUS prior considering surgical removal of growth

BREED ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Terrier Mix **Urinary System**
The **urinary bladder** is mildly to moderately distended with anechoic urine. The wall in the region of the apex is thickened (up to 0.46 cm) with an 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 the visible portion of the proximal urethra are normal.

SEX Spayed Female
The **left kidney** is normal size (3.52 cm in length); normal shape and smooth peripheral contours. The cortex is variably thickened. There is mild to moderate loss of corticomedullary distinction. Hyperechoic shadowing diverticular foci are visualized. Several, small cortical cysts are seen. There is no evidence of pyelectasia infarcts or hydroureter.

AGE 14 years
The **right kidney** is normal size (4.60 cm in length); with a normal shape, smooth peripheral margins, and normal internal architecture. There is mild loss of corticomedullary distinction. Several hyperechoic shadowing diverticular foci are observed. There is no evidence of pyelectasia, infarcts or hydronephrosis. Renal vasculature is normal.

WEIGHT 14.8 lbs

Adrenal Glands
The **left adrenal gland** is normal size (0.36 cm at cranial pole) (0.44 cm at caudal pole); normal shape; homogenous parenchyma. 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 normal size (0.46 cm at cranial pole) (0.43 cm at caudal pole); normal shape; homogenous parenchyma. The glandular echogenicity and detail are unremarkable. Capsule, cortex, and medullary definition are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

INTERPRETED BY

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

IMAGING PERFORMED BY

Tom McNeill

Spleen
The **spleen** is subjectively normal in size with a normal capsular contour. There is appropriate echogenicity and echotexture. Several hyperechoic nodules are observed in the region of the hilus.

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Liver
The **liver** is subjectively prominent to enlarged with slightly swollen peripheral contours. The parenchyma is hyperechoic relative to the spleen. A 0.24 cm ill-defined hyperechoic nodule is observed on the right side. In addition, 1.16 cm, ill-defined hypoechoic nodule/area is observed approximately mid-liver. Hepatic vasculature and intrahepatic biliary tracts are of normal volume with no evidence of congestion.

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Mukwonago AH
Dr. Bogunovic

The **gall bladder** of normal contours. The lumen is mildly distended and contains a small amount of echogenic to mineralized, mostly gravity dependent debris. The wall is normal in thickness. No choleliths are observed. The cystic and common bile ducts are normal/not seen.

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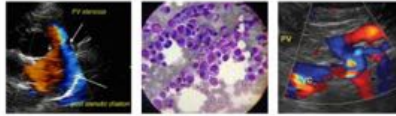
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Gastrointestinal

The **stomach and intestine** are free of stasis and exhibit normal peristaltic activity. The gastric lumen is not distended. The gastric wall and pylorus are normal in thickness with a normal layering

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**PATIENT**

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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. There is no evidence of an obstructive pattern.

SPECIES

Canine

Pancreas

The region of the **pancreas** is isoechoic relative to surrounding omental fat. No obvious parenchymal abnormalities are observed. There is no evidence of regional inflammation or effusion.

BREED

Terrier Mix

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**SEX**

Spayed Female

Primary Findings

- The hepatic parenchymal changes are nonspecific and could be associated with vacuolar hepatopathy, regenerative nodular hyperplasia, and/or age-related remodeling. Given the moderate ALT elevation, however, a concurrent inflammatory process, hepatotoxicity (i.e., copper) or other hepatopathy, cannot be completely excluded.

AGE

14 years

Secondary Findings

- Bilateral age-related renal changes with dystrophic mineralization.
- The urinary bladder wall changes may be artifactual due to lack of full repletion. However, cystitis is also a possibility. Correlation with the patient's clinical history and urinalysis findings is recommended.
- The hyperechoic splenic nodules are most consistent with a benign process (i.e., myelolipomas).

WEIGHT

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ACVIM (*Small Animal
Internal Medicine*)

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Given the history of PU/PD, further testing for Cushing's disease (i.e., low-dose dexamethasone suppression test) is recommended. If results are inconclusive, further testing (i.e., ACTH stimulation test +/- serum bile acids) may be warranted.

IMAGING PERFORMED BY

Tom McNeill

Depending on the above results, hepatic tissue sampling (i.e., fine-needle aspirate or surgical biopsy) may be necessary to get a definitive diagnosis. If biopsies are pursued, aerobic and anaerobic bile cultures should be obtained along with acquisition of additional hepatic tissue samples for potential copper quantitation.

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If the patient is to undergo anesthesia, benzodiazepines should be avoided and opioids should be used judiciously.

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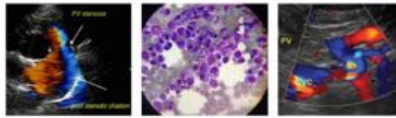
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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