



PATIENT	PRESENTING CLINICAL SIGNS
Copper Tugby	High liver values that seem to be climbing. Has large growth on tail that requires GA and removal, wanted to assess liver prior to surgery.
SPECIES	Abnormal PE/Chem/CBC/UA Results: Please see attached bloodwork.
Canine	ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN
BREED	Urinary System
Havanese	The urinary bladder is moderately distended with anechoic contents. No masses or inflammatory changes. The urinary bladder, trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface. Several cystoliths are present, ranging in size from 0.8-0.9 cm.
SEX	Prostate is normal in size, echotexture and echogenicity for a neutered male.
Neutered Male	The right kidney is normal in size (5.0 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed. Small bilateral cortical cysts noted.
AGE	The left kidney is normal in size (4.32 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed. Small bilateral cortical cysts noted.
14 Years	Adrenal Glands
WEIGHT	The right adrenal gland is normal in size (1.44 cm long x 0.94 cm at the cranial pole and 0.53 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.
17 Pounds	The left adrenal gland is normal in size (1.67 cm long x 0.47 cm at the cranial pole and 0.55 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.
INTERPRETED BY	Spleen
Beth Johnson, DVM DACVIM	The spleen is subjectively normal in size with a normal smooth capsular contour. Parenchyma is appropriately finely textured and homogenous with normal echogenicity relative to surrounding tissue (hyperechoic to liver). No focal nodules or masses are observed. Splenic vasculature appears normal.
IMAGING PERFORMED BY	Liver
Crystal Hill	Liver is subjectively enlarged with mildly irregular margins. Parenchyma is heterogenous characterized by multiple poorly defined hypoechoic nodules within otherwise hyperechoic liver parenchyma. Visible vasculature and biliary tree appear normal without distension or congestion.
HOSPITAL NAME	REFERRING VET
Mountain AH	Gallbladder is mildly overdistended with a moderate amount of non-dependent, mildly aggregated/inspissated sludge. Hypo to anechoic cystic areas are noted between the gallbladder sludge and luminal wall. The wall is otherwise smooth without visible thickening. There is no evidence of cystic or CBD dilation. There is no evidence of effusion.
REFERRING VET	INVOICE
Dr. MacKenzie	44022
INVOICE	Gastrointestinal
44022	The stomach wall is normal in thickness (canine < 0.5 cm and feline < 0.4 cm) and layering. The lumen of the stomach is empty with no evidence of obstruction, foreign material or infiltrative disease. Pyloric outflow tract appears patent.
DATE	
1/6/23	



PATIENT

Copper Tugby

The visible small intestines are normal in wall thickness and layering (canine duodenum < 0.5 cm and feline duodenum < 0.4 cm; other < 0.3 cm). Small intestinal motility appears adequate (1-3 contractions per min). The lumen of the small intestine is empty with no evidence of obstruction, foreign material or infiltrative disease.

SPECIES

Canine

The visible colon is normal in wall thickness (< 0.2 cm) and layering. Contents are consistent with normal formed feces and gas.

Pancreas

BREED

Havanese

The pancreatic parenchyma is appropriately isoechoic to surrounding tissue. Visible capsule is smooth and normal in contour. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

SEX

Neutered Male

Free Abdomen

There is no evidence of free peritoneal effusion noted in these images.

There is no apparent lymphadenopathy noted in these images.

AGE

14 Years

PRIMARY FINDINGS

- **Emerging mucocele** – Cholecystic debris is of unknown clinical significance. It can be seen with biliary stasis from fasting or illness. Cholecystic debris is not necessarily related to hepatobiliary disease. The non-dependent nature of this sludge combined with the cystic areas are suggestive, however, of possible emerging cystic mucosal hyperplasia or early gallbladder mucocele.

WEIGHT

17 Pounds

SECONDARY FINDINGS

INTERPRETED BY

Beth Johnson, DVM
DACVIM

- Several cystoliths almost 1.0 cm in diameter
- Bilateral small renal cortical cysts

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

IMAGING PERFORMED BY

Crystal Hill

This patient's gradually increasing liver enzymes may be secondary to the emerging gallbladder mucocele. If clinical signs of gallbladder disease are present, including decreased appetite, nausea, especially cranial abdominal pain, etc., surgical cholecystectomy may be warranted. However, in an asymptomatic patient, if a more conservative approach is elected with close monitoring for progression, hepatic nutraceuticals including Ursodiol, and broad-spectrum antibiotics could be tried. If liver enzymes improve, then antibiotics should be continued until they plateau or normalize. If they don't improve, there is no need to continue antibiotics. Hepatic nutraceuticals including Ursodiol, however, can be continued long-term, if necessary. If a cholecystectomy is elected, a liver biopsy and cystotomy for cystoliths removal are recommended at the same time.

HOSPITAL NAME

Mountain AH

REFERRING VET

Dr. MacKenzie

In the meantime, if not recently evaluated, Urinalysis and, if indicated based on urinalysis results, urine culture are recommended. If protein is present in an otherwise quiet sediment, protein quantification with a urine protein to creatinine ratio is recommended.

INVOICE

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If medical management is elected but clinical signs progress and/or patient becomes ill, a surgical cholecystectomy should be revisited at that time.

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Copper Tugby

SPECIES

Canine

BREED

Havanese

SEX

Neutered Male

AGE

14 Years

WEIGHT

17 Pounds

INTERPRETED BY

Beth Johnson, DVM
DACVIM

IMAGING PERFORMED BY

Crystal Hill

HOSPITAL NAME

Mountain AH

REFERRING VET

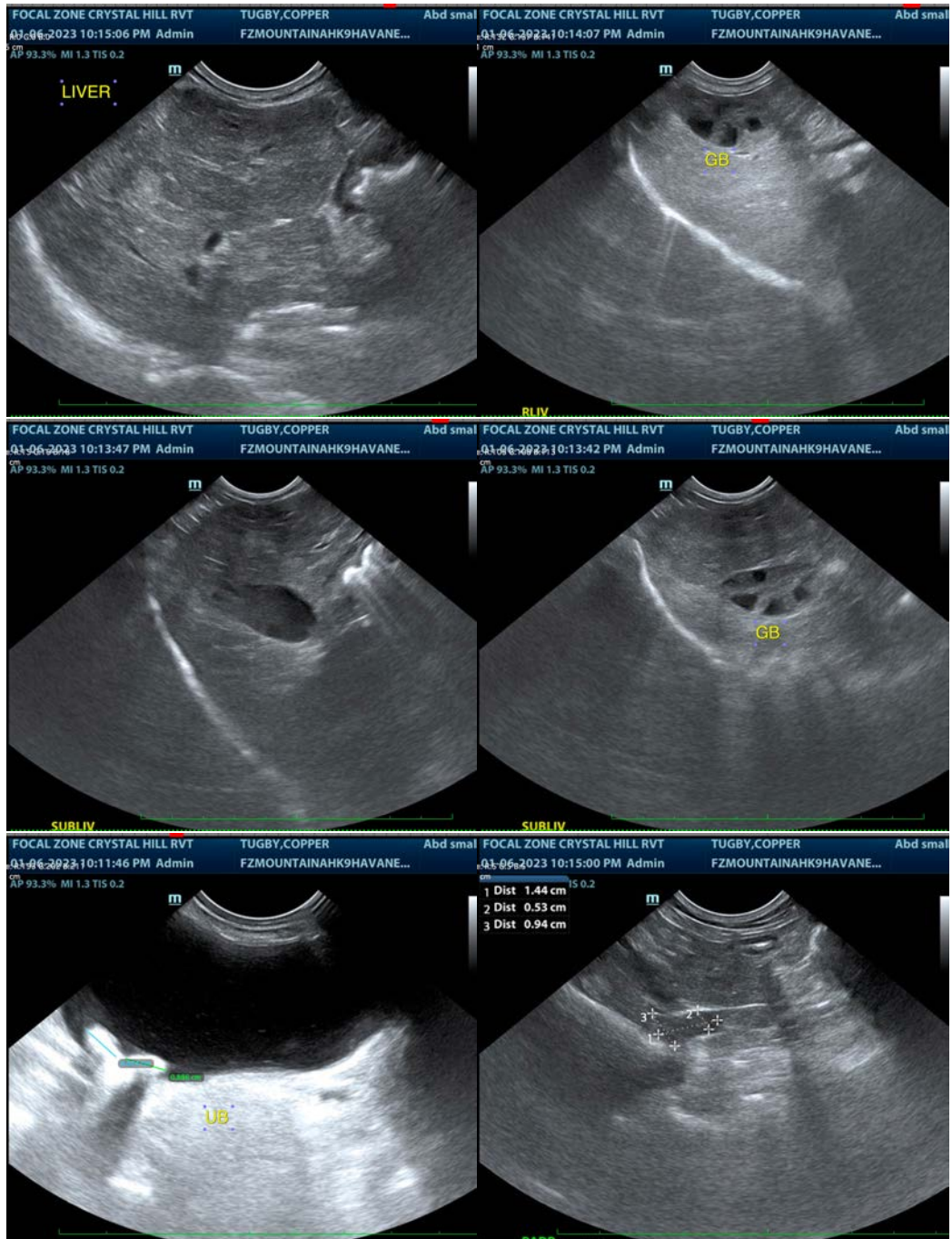
Dr. MacKenzie

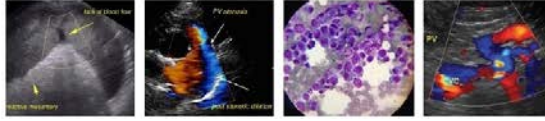
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SPECIES

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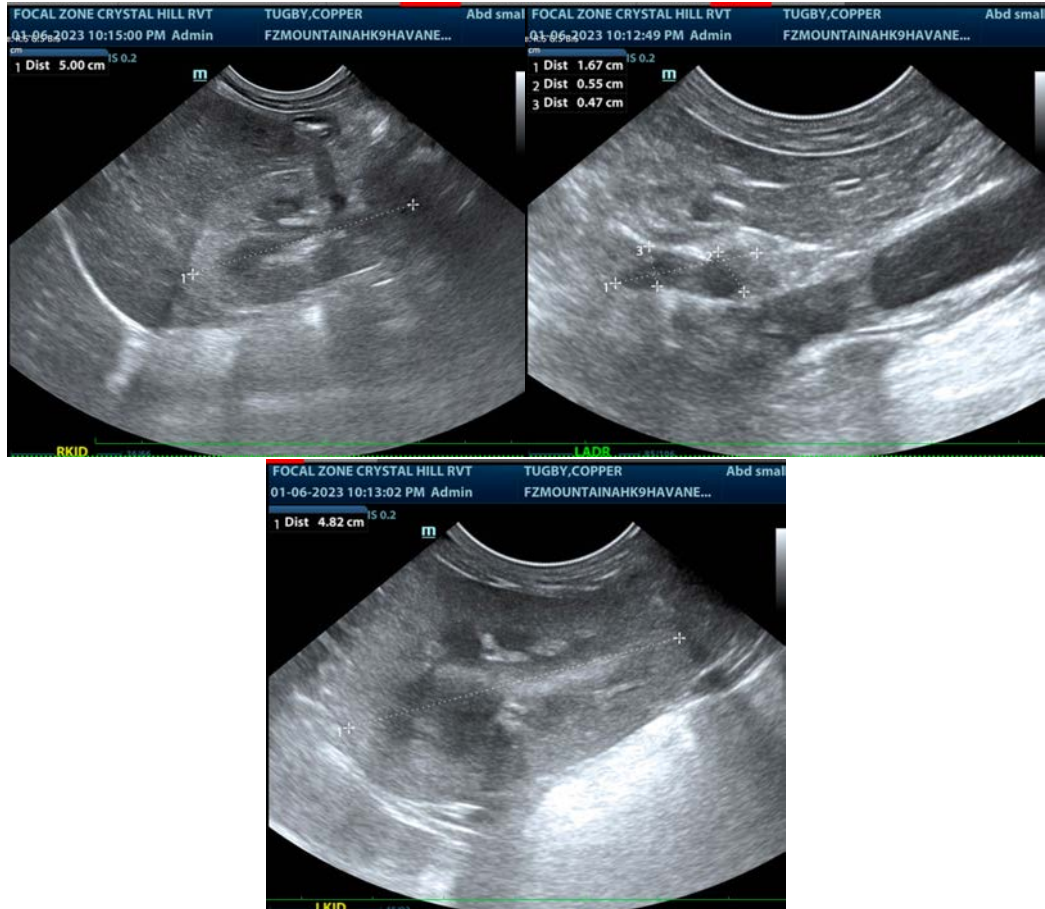
Dr. MacKenzie

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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.

Beth Johnson, DVM, DACVIM
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