



PATIENT	PRESENTING CLINICAL SIGNS
Belle Westervelt	Recent episode of vestibular disease that appears to be resolving. Elevated liver enzymes Abnormal PE/Chem/CBC/UA Results: BUN: 38.3 TBil: 0.65, hemolysis present ALKP:1869 ALT: 158 Chol:363 CBC: nsf No urinalysis has been done yet
SPECIES	ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN
Canine	Urinary System
BREED	The urinary bladder is moderately distended with anechoic contents. No masses, inflammatory changes, echogenic sediment or cystoliths are observed. The urinary bladder, trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.
Mixed	Kidneys
SEX	Kidneys are overall normal in size and shape with smooth peripheral margination. A normal 1:3 cortex to medulla ratio is maintained. The medulla and cortices are uniform in texture with some mild increased cortical echogenicity and mild loss of corticomedullary distinction, expected in this age patient. There is no evidence of pyelectasia, mineral or infarcts observed. The left kidney measures 5.27 cm. The right kidney measured 6.89 cm. Multiple small cortical cysts are noted bilaterally.
Spayed Female	Adrenal Glands
AGE	The adrenal glands are unable to be well visualized in these images.
11 years	Spleen
WEIGHT	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). Multifocal well-demarcated hyperechoic homogenous nodules are noted. Splenic vasculature appears normal.
54 Pounds	Liver
INTERPRETED BY	The liver is subjectively normal in size with normal smooth curvilinear peripheral contour. Parenchyma is appropriately hypoechoic to the spleen in echogenicity and appropriately mildly coarse and homogenous in echotexture. No focal lesions are observed. Visible vasculature and biliary tree appear normal without distension or congestion.
Beth Johnson, DVM DACVIM	Gallbladder
IMAGING PERFORMED BY	Gallbladder is moderately distended with anechoic bile as well as suspended and gravity dependent echogenic debris. The wall is smooth without visible thickening. There is no evidence of cystic or CBD dilation. There is no evidence of effusion or inflammation.
Dr. Reyes	Gastrointestinal
HOSPITAL NAME	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.
Graceful Paws Pet Clinic	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.
REFERRING VET	The visible colon is normal in wall thickness (< 0.2 cm) and layering. Contents are consistent with normal formed feces and gas.
Dr. Reyes	
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PATIENT *Pancreas*

Belle Westervelt

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.

SPECIES

Canine

Free Abdomen

BREED

Mixed

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

There is no apparent lymphadenopathy noted in these images.

ULTRASONOGRAPHIC FINDINGS

SEX

Spayed Female

- **Mild gallbladder debris** - 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. Echogenic bile is most commonly an incidental finding in dogs and should be interpreted in combination with clinical signs such as nausea, inappetence, cranial abdominal discomfort and/or laboratory changes such as increased ALP and/or increased Tbili.

AGE

11 years

- **Hyperechoic splenic nodules** – most consistent with benign myelolipomas. Other differentials such as fibrosis or calcification caused by old hematomas or infarcts, chronic inflammation, granulomatous disease or metastatic disease cannot be ruled out, but are considered less likely.

WEIGHT

54 Pounds

- Age related kidney changes

INTERPRETED BY

Beth Johnson, DVM
DACVIM

- This is a relatively unremarkable abdomen. An obvious cause for the reported increased liver enzymes is not identified in these images. Microscopic disease such as Leptospirosis, bacterial cholangiohepatitis, chronic active hepatitis, copper-associated hepatotoxicity, other hepatotoxicity, infiltrative neoplasia (considered unlikely), etc. cannot be definitively ruled out.

IMAGING PERFORMED BY

Dr. Reyes

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Given the reported improvement in the vestibular signs, recommendations are to recheck liver enzymes upon full resolution/normalization of clinical signs.

HOSPITAL NAME

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Differentials for an elevation in ALP are vast and non-specific. Differentials include, but are not limited to, benign nodular hyperplasia which occurs in 70% of older dogs and often does not result in an abnormal ultrasound, reactive or idiopathic/vacuolar hepatopathy, cholestasis and/or hyperadrenocorticism as well as many chronic non-hepatobiliary diseases such as chronic infections/inflammation from dental disease, IBD, neoplasia, hyperlipidemia, hypothyroidism, chronic pancreatitis, chronic stress, etc.

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There is no ultrasonographic evidence of cholestasis. Adrenocortical testing such as a low dose dexamethasone suppression test could be considered if clinical signs of hyperadrenocorticism are present. Ursodiol could be considered if gallbladder sludge is noted. A fine needle aspirate of the liver could be considered if patient's coagulation status is appropriate. Otherwise, recommendations include addressing any other concurrent disease and monitoring. If values are progressive, recheck imaging is recommended.

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PATIENT

Belle Westervelt

SPECIES

Canine

BREED

Mixed

SEX

Spayed Female

AGE

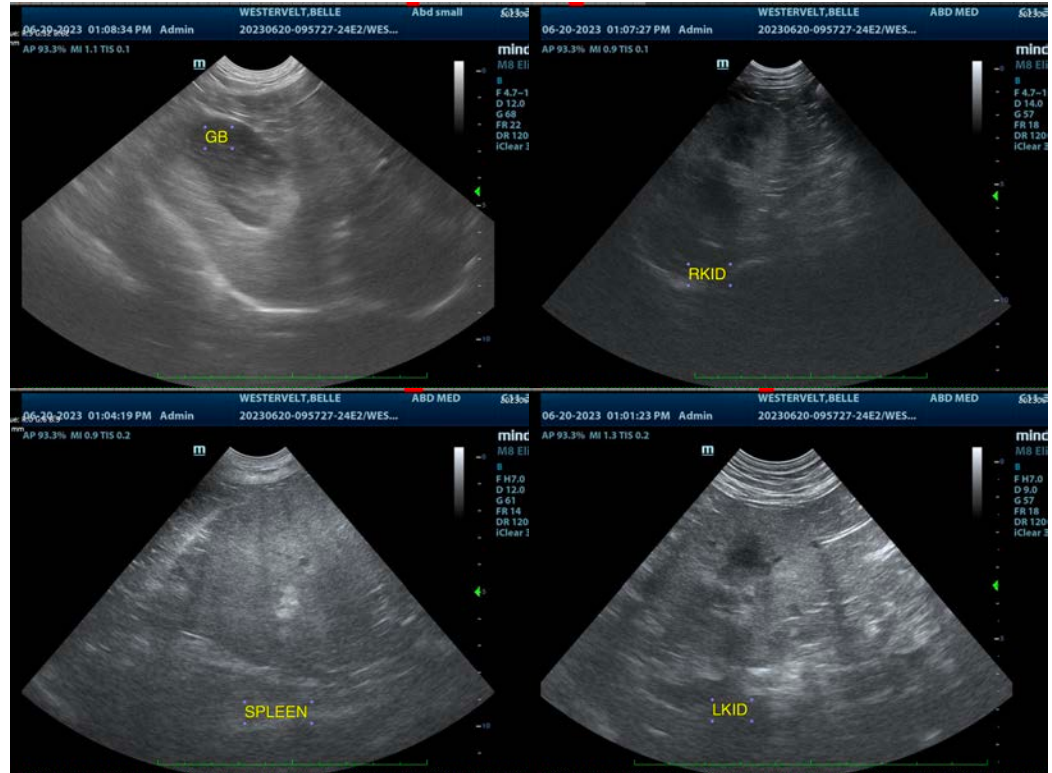
11 years

WEIGHT

54 Pounds

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HOSPITAL NAME

Graceful Paws Pet
Clinic

REFERRING VET

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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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