



PATIENT PRESENTING CLINICAL SIGNS

Lucy Leslie Elevated liver value. No symptoms
Abnormal PE/Chem/CBC/UA Results: ALK PHOS 711

SPECIES ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Canine **Urinary System**

BREED Urinary bladder is moderately distended. It has a normal uniform wall thickness (<0.2 cm). Contents include primarily anechoic fluid combined with both gravity dependent and suspended echogenic non-shadowing debris within the fluid. No masses or cystoliths are observed. The trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.

Dachshund

SEX The right kidney is normal in size (4.7 cm) 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 echogenicity and mild loss of corticomedullary distinction. There is no evidence of mineral or infarcts observed. Renal pelvis is dilated (pyelectasia). No visible obstruction is observed, but cannot be ruled out. Small cortical cysts noted.

Spayed Female

AGE

12 Years

The left kidney is normal in size (4.0 cm) 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 echogenicity and mild loss of corticomedullary distinction. There is no evidence of mineral or infarcts observed. Renal pelvis is dilated (pyelectasia). No visible obstruction is observed, but cannot be ruled out. Small cortical cysts noted.

WEIGHT

13.6

Adrenal Glands

INTERPRETED BY The left adrenal gland is enlarged in size (0.49 cm at the cranial pole and 0.76 cm at the caudal pole). Normal shape and contour are maintained. Corticomedullary structure is unremarkable. A small non-capsule expanding, hyperechoic nodule is noted in the caudal pole of the left adrenal gland. Visible surrounding vasculature appears normal.

Beth Johnson, DVM
DACVIM

IMAGING PERFORMED BY The right adrenal gland is enlarged in size (0.52 cm at the cranial pole and 0.56 cm at the caudal pole). Normal shape and contour are maintained. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

JK

Spleen

HOSPITAL NAME 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.

Hamburg Vet Clinic

REFERRING VET Liver

Dr. Branning The 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.

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The gallbladder is unable to be visualized in these images.

Gastrointestinal

DATE

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The stomach wall is normal in thickness (canine < 0.5 cm and feline < 0.4 cm) and layering. It is moderately fluid distended with a curvilinear echogenic foci with strong acoustic shadowing, concerning



PATIENT	for a possible non-obstructive gastric foreign body. Ingesta and gas can't be ruled out. Pyloric outflow tract appears patent.
Lucy Leslie	
SPECIES	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.
Canine	
BREED	The visible colon is normal in wall thickness (< 0.2 cm) and layering. Contents are consistent with normal formed feces and gas.
Dachshund	
SEX	Pancreas 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.
Spayed Female	
AGE	Free Abdomen There is no evidence of free peritoneal effusion noted in these images. There is no apparent lymphadenopathy noted in these images.
12 Years	
WEIGHT	PRIMARY FINDINGS
13.6	<ul style="list-style-type: none"> Bilateral adrenomegaly – consistent with adrenal hyperplasia secondary to pituitary depending hyperadrenocorticism vs normal variant. Hyperechoic adrenal nodule – Differentials include primary adrenal cortical adenoma or adenocarcinoma, pheochromocytoma, myelolipoma, adrenal hyperplasia secondary to pituitary disease or metastatic disease. Ultrasound alone cannot differentiate between functional and non-functional nodules and/or between benign and malignant disease. Small nodules without other evidence of abdominal disease (to suggest metastatic disease) and/or clinical signs (to suggest adrenal disease) are most often incidental and should be monitored.
INTERPRETED BY	<ul style="list-style-type: none"> Heterogenous liver – Differentials for hepatic changes include both benign steroid (vacuolar) hepatopathy or extramedullary hematopoiesis as well as infiltrative round cell or metastatic neoplasia.
Beth Johnson, DVM DACVIM	
IMAGING PERFORMED BY	<ul style="list-style-type: none"> Possible incidental non-obstructing gastric foreign body
JK	
HOSPITAL NAME	SECONDARY FINDINGS
Hamburg Vet Clinic	<ul style="list-style-type: none"> Urinary bladder sediment – Urine changes are most consistent with cellular debris or crystalluria. Age related kidney change – This finding is expected/consistent with age-related mild degenerative disease and should be interpreted clinically in combination with laboratory changes.
REFERRING VET	<ul style="list-style-type: none"> The gallbladder is not visualized in these images.
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Lucy Leslie

SPECIES

Canine

BREED

Dachshund

SEX

Spayed Female

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HOSPITAL NAME

Hamburg Vet Clinic

REFERRING VET

Dr. Branning

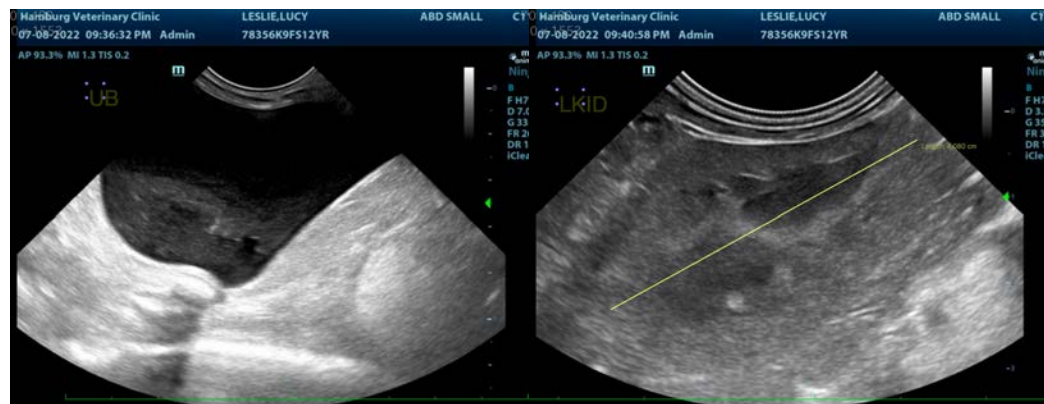
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Recommendations include:

- **ALP** – Differentials 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.

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.

- Hyperadrenocorticism is suspected in this patient based on the history of increased ALP and the ultrasound changes described. However, testing for hyperadrenocorticism in the form of a low-dose Dexamethasone suppression test is only warranted if/when clinical signs develop.
- In the meantime, a 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 ration is recommended.
- Blood pressure is recommended if not recently evaluated.
- If gastrointestinal signs such as vomiting and/or inappetence, etc. are noted, further investigation of the possible gastric foreign body is warranted. Otherwise, recheck ultrasound of a fasted stomach in 24-48 hours is recommended.



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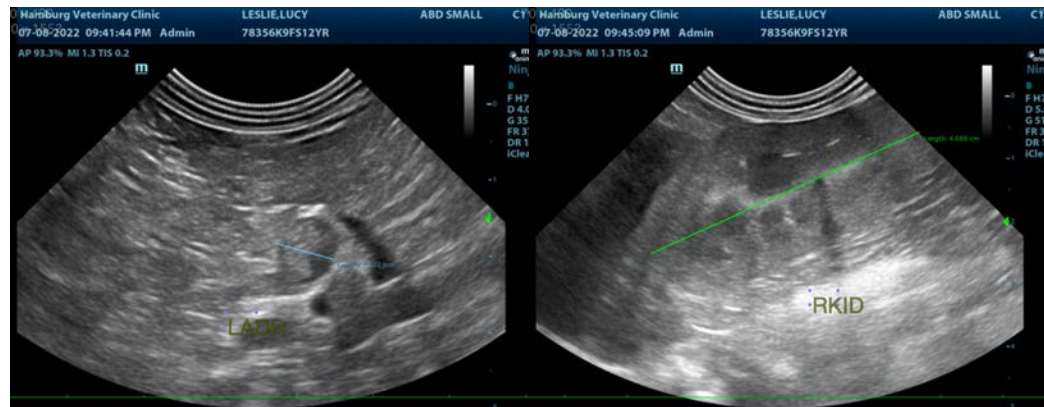
Lucy Leslie

SPECIES

Canine

BREED

Dachshund



SEX

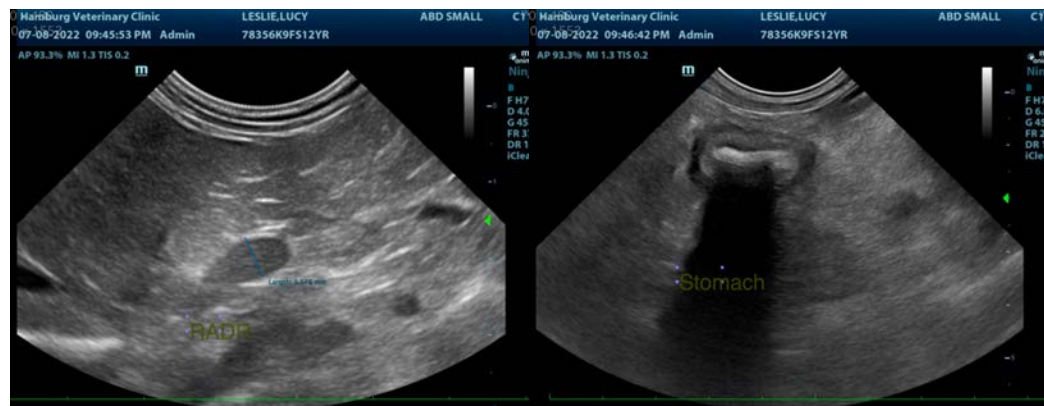
Spayed Female

AGE

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WEIGHT

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INTERPRETED BY

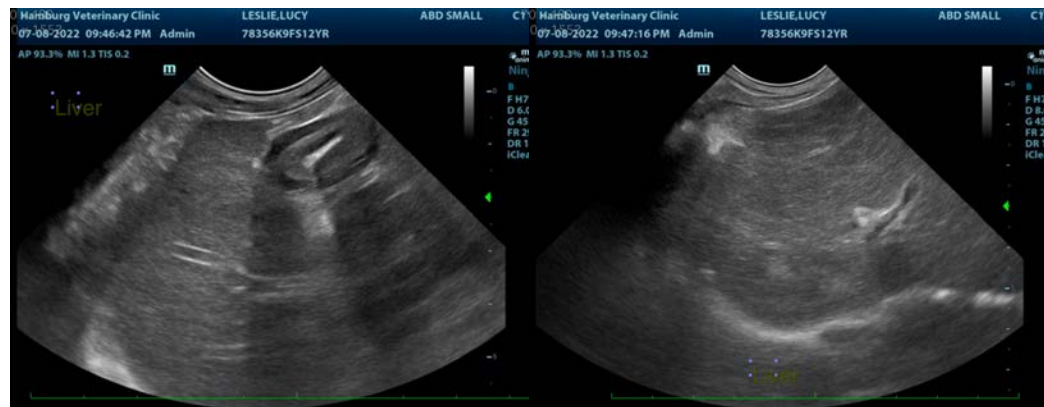
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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
Beth.Johnson@sonopath.com