



PATIENT	PRESENTING CLINICAL SIGNS
Gracie Houghton	<p>PERTINENT CLINICAL HISTORY: Gracie is a 12 yr old SF, K9, Miniature Pincher weighing 6.27 kg. O/r P has had diabetes for 2 year, stable for 1 year. P presented for not eating normally. O/r when feeding P this evening, P did not come to eat and would just stare when called. O picked up P and brought her to her food and P fell to the ground in a splayed leg position. O repeated this a couple of time. P ate food in that position which is abnormal per O. P has been picking at food but eating most of it for the last few days (She normally scarfs it down and licks the bowl per O.) Ticks were found on P and she was taken to her primary vet on Friday. She received a rabies vax and Nexgard, which was administered yesterday. Drinking well. U/D well. No C/S/V/D. P has been panting hard intermittently for the last couple of days.</p> <p>LEADING DIFFERENTIAL/DIAGNOSIS: Cholangial Pancreatitis vs. other</p>
SPECIES	
Canine	
BREED	<p>ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN</p> <p>Urinary System</p> <p>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.</p> <p>The right kidney is normal in size (4.13 cm), shape and echogenicity. Pyelectasia is noted measuring 0.29 cm in the transverse view. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of mineral or infarcts observed. Small cortical cysts present.</p> <p>The left kidney is normal in size (4.9 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 cortical cysts present.</p> <p>Adrenal Glands</p> <p>The right adrenal gland is normal in size (0.68 cm at the cranial pole and 0.64 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.</p> <p>The left adrenal gland is normal in size (0.70 cm at the cranial pole and 0.90 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.</p> <p>Spleen</p> <p>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). Multiple hypo- to anechoic non-capsule disrupting nodules are noted throughout the spleen, measuring between 0.50-0.70 cm in diameter. Splenic vasculature appears normal.</p> <p>Liver</p> <p>Liver is subjectively enlarged (swollen contour) without disruption of architecture. It has a normal homogenous echotexture. Parenchyma is diffusely hyperechoic characterized by less prominent than normal portal vein walls and increased echogenicity relative to the spleen and falciform fat. A discrete hyperechoic, approximately 2.0 cm in diameter nodule is noted in the deep mid liver. Visible vasculature and biliary tree appear normal without distension or congestion.</p>
Miniature Pinscher	
SEX	
Spayed Female	
AGE	<p>INTERPRETED BY</p> <p>Beth Johnson, DVM DACVIM</p>
12	
WEIGHT	
6.27 kg	<p>IMAGING PERFORMED BY</p> <p>Kacie Edwards</p>
INTERPRETED BY	
Beth Johnson, DVM DACVIM	
HOSPITAL NAME	<p>REFERRING VET</p> <p>Dr. Biddick</p>
Boren Vet Medical Teaching Hospital	
REFERRING VET	
INVOICE	<p>INVOICE</p> <p>43474</p>
43474	
DATE	
6/28/23	



PATIENT	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.
Gracie Houghton	
SPECIES	<i>Gastrointestinal</i>
Canine	The visible stomach wall is normal in thickness and layering. The lumen of the stomach is mildly distended with echogenic non-shadowing luminal contents and gas consistent with normal ingesta.
BREED	There is no evidence of obstruction, foreign material or infiltrative disease. Pyloric outflow tract appears patent.
Miniature Pinscher	
SEX	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.
Spayed Female	
AGE	The visible colon is normal in wall thickness (< 0.2 cm) and layering. Contents are consistent with normal formed feces and gas.
12	<i>Pancreas</i>
WEIGHT	The observed pancreas appears appropriately isoechoic to surrounding omental fat. The capsule is mildly irregular in shape. Parenchyma is mildly heterogenous and coarse. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.
6.27 kg	
INTERPRETED BY	<i>Free Abdomen</i>
Beth Johnson, DVM DACVIM	There is no evidence of free peritoneal effusion noted in these images.
	There is no apparent lymphadenopathy noted in these images.
IMAGING PERFORMED BY	ULTRASONOGRAPHIC FINDINGS
Kacie Edwards	<ul style="list-style-type: none"> • Hyperechoic hepatomegaly - This appearance is non-specific and most consistent with a benign steroid (endocrine) or vacuolar hepatopathy or reactive or idiopathic hepatopathy. Inflammatory and/or infiltrative disease (such as round cell neoplasia) are also possible, but considered less likely. • Liver nodule- Differentials for a discrete liver nodule include primarily benign changes such as nodular hyperplasia, fibrosis of an old hematoma, granuloma, myelolipoma, etc.; however, while considered less likely, primary hepatic neoplasia, infiltrative round cell neoplasia and metastatic disease can mimic benign lesions and cannot be definitively ruled out. • Hypo to anechoic splenic nodules - likely represent benign lesions such as cyst, hematoma, nodular hyperplasia, extramedullary hematopoiesis, etc., however while considered less likely, infiltrative neoplasia can mimic benign lesions, and cannot be ruled out. • Moderate 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.
HOSPITAL NAME	
Boren Vet Medical Teaching Hospital	
REFERRING VET	
Dr. Biddick	
INVOICE	
43474	
DATE	
6/28/23	



PATIENT

Gracie Houghton

- **Pancreatic age-related remodeling** – Mild irregularities are consistent with benign age-related change. Low-grade smoldering chronic pancreatitis cannot be ruled out and should be suspected in the face of appropriate clinical signs.

SPECIES

Canine

- **Mild right kidney pyelectasia** – Differentials for pyelectasia include pyelonephritis, diuresis, congenital malformation or ureteral or lower urinary tract obstruction.

BREED

Miniature Pinscher

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The findings/pathology described above are relatively non-specific and primarily benign in appearance without an obvious ultrasonographically visible explanation for this patient’s decreased appetite. A fine needle aspirate of the spleen, given the multiple nodules, could be considered if patient’s coagulation status is appropriate.

SEX

Spayed Female

Additionally, further evaluation of the GI tract and pancreas for possible emerging or mild disease could be considered via a gastrointestinal malabsorption panel (including cobalamin, folate, TLI and PLI) to Texas A&M GI Laboratory.

AGE

12

Beyond that, in a diabetic patient that hasn’t been eating and still receiving insulin, hypoglycemia is a concern. Given this patient’s reported falling over/collapse at the food dish, a general metabolic health screen is also recommended if not already evaluated to include CBC/Chem panel and electrolytes.

WEIGHT

6.27 kg

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.

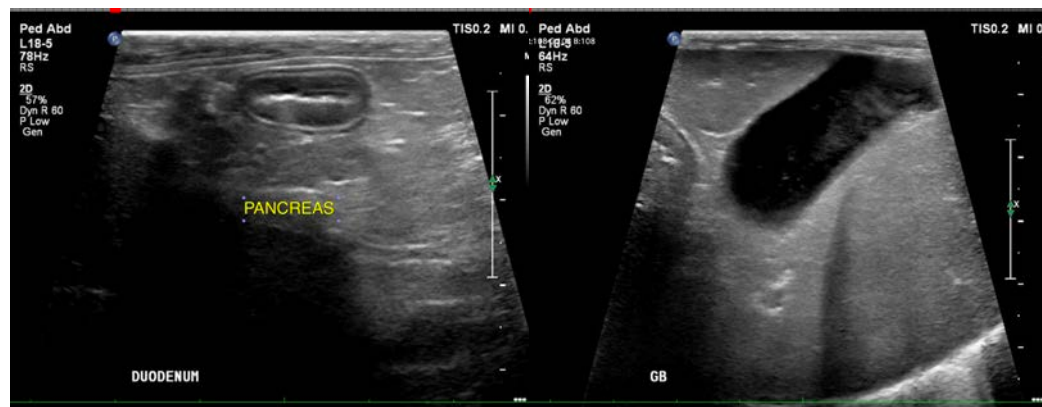
INTERPRETED BY

Beth Johnson, DVM
DACVIM

Further treatment recommendations are dependent on results.

IMAGING PERFORMED BY

Kacie Edwards



HOSPITAL NAME

Boren Vet Medical
Teaching Hospital

REFERRING VET

Dr. Biddick

INVOICE

43474

DATE

6/28/23



PATIENT

Gracie Houghton

SPECIES

Canine

BREED

Miniature Pinscher

SEX

Spayed Female

AGE

12

WEIGHT

6.27 kg

INTERPRETED BY

Beth Johnson, DVM
DACVIM

IMAGING PERFORMED BY

Kacie Edwards

HOSPITAL NAME

Boren Vet Medical
Teaching Hospital

REFERRING VET

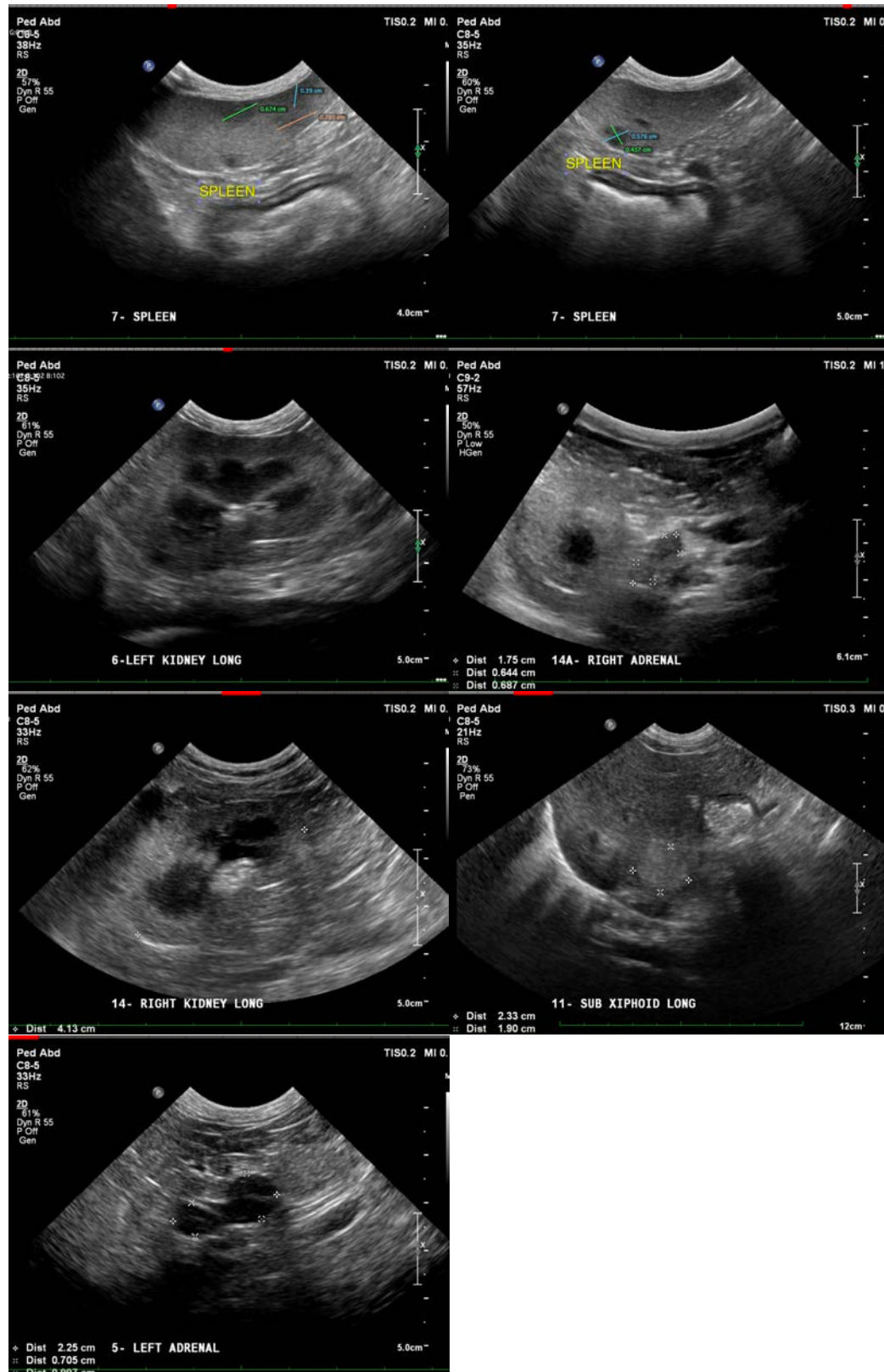
Dr. Biddick

INVOICE

43474

DATE

6/28/23





PATIENT

Gracie Houghton

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.

SPECIES

Canine

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.

BREED

Miniature Pinscher

Beth Johnson, DVM, DACVIM
info@sonopath.com

SEX

Spayed Female

AGE

12

WEIGHT

6.27 kg

INTERPRETED BY

Beth Johnson, DVM
DACVIM

**IMAGING
PERFORMED BY**

Kacie Edwards

HOSPITAL NAME

Boren Vet Medical
Teaching Hospital

REFERRING VET

Dr. Biddick

INVOICE

43474

DATE

6/28/23