



PATIENT

Milo Wallen

SPECIES

Canine

BREED

Shih Tzu

SEX

Neutered Male

AGE

13 Years 9 Months

WEIGHT

14.9 Pounds

INTERPRETED BY

Beth Johnson, DVM
DACVIM

IMAGING PERFORMED BY

Dr. Ashley Whitesell

HOSPITAL NAME

Dickson Animal Clinic

REFERRING VET

Dr. Ashley Whitesell

INVOICE

45870

DATE

3/14/23

PRESENTING CLINICAL SIGNS

Off and on pancreatitis, ADR, decreased appetite, off and on painful with abd palpation

Abnormal PE/Chem/CBC/UA Results: BUN mild elevation 36, crea normal 1.2; alk phos mild elevation 350, alt mild elevation 120, PSL mild elevation 167; These results from January In December all liver values elevated: AST 69, ALT 294, alk phos 2005, GGT 32, tbili normal 0.1, PSL 799 Since December not fully recovered, stays on entyce, cerenia, omeprazole, famotidine

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

Urinary bladder is adequately distended. It has a normal uniform wall thickness. Contents include primarily anechoic fluid with occasional echogenic non-shadowing debris, most consistent with exfoliated cells, mucous and/or small blood clots. Both sterile inflammation as well as urinary tract infection can also present with echogenic debris. No masses or cystoliths are observed. The trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.

Prostate is normal in size, echotexture and echogenicity for a neutered male.

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 measured 4.2 cm. The right kidney measures 5.2 cm.

Adrenal Glands

The right adrenal gland is normal in size (0.54 cm at the cranial pole and 0.42 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

The left adrenal gland is normal in size (0.48 cm at the cranial pole and 0.81 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

Spleen

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.

Liver

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.

Gallbladder is moderately distended with anechoic bile as well as mild 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.



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Gastrointestinal

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.

The visible small intestines are normal in wall thickness and layering. Hyperechoic mucosal fogging or speckling is noted. Small intestinal motility appears adequate (1-3 contractions per min). The lumen is empty with no evidence of obstruction or foreign material.

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

Pancreas

Caudal to the stomach, there is an approximately 5.0 cm in diameter irregular heterogeneous hypoechoic mass that is surrounded by enhanced hyperechoic ill-defined fat and a scant amount of anechoic free fluid, most consistent with pancreas.

Free Abdomen

There is a scant amount of anechoic free fluid around the pancreas as described above.

There is no apparent lymphadenopathy noted in these images.

PRIMARY FINDINGS

- **Heterogeneous, hypoechoic pancreatic mass** – This could occur with severe acute but benign pancreatitis or could represent pancreatic necrosis or even an emerging cyst or abscess. Infiltrative pancreatic neoplasia is not common, but can't be definitively ruled out.
- **Heterogenous Liver** – These changes are most consistent with benign processes such as nodular hyperplasia, steroid (vacuolar) hepatopathy, extramedullary hematopoiesis or possibly chronic inflammatory disease and less commonly infiltrative round cell or metastatic neoplasia.
- **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.
- **Mucosal speckling** – Mucosal speckling is often present with inflammatory bowel disease (IBD). It is not specific for type or severity of disease. Mild speckling change can occur as a normal patient variant in the post-prandial state.

SECONDARY FINDINGS

- Urinary bladder debris
- Age related kidney changes

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Further evaluation of the pancreas with power doppler is recommended to help further identify possible pancreatic necrosis versus a cyst or abscess versus other. Additionally, a fine needle aspirate of the pancreatic mass is recommended if patient's coagulation status is appropriate to help identify inflammatory cell type, rule out infiltrative neoplasia, etc.



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Three view thoracic radiographs are recommended for further assessment of cardio-pulmonary status as well as to further evaluate for any evidence of metastatic disease, if not recently evaluated.

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A gastrointestinal malabsorption panel (including cobalamin, folate, TLI and PLI) to Texas A&M GI Laboratory is recommended for further evaluation of GI and pancreatic function.

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In the meantime, medical management of pancreatitis with anti-emetics, gastroprotectants, appetite stimulants or nutritional support as needed, pain management, broad spectrum antibiotics, and fluid therapy is recommended. If possible, a fresh frozen plasma transfusion and hyperbaric oxygen therapy (HBOT) could be beneficial. Monitoring of the pancreas with power doppler is recommended to identify possible necrosis as well as other potential sequelae such as abscesses, etc.

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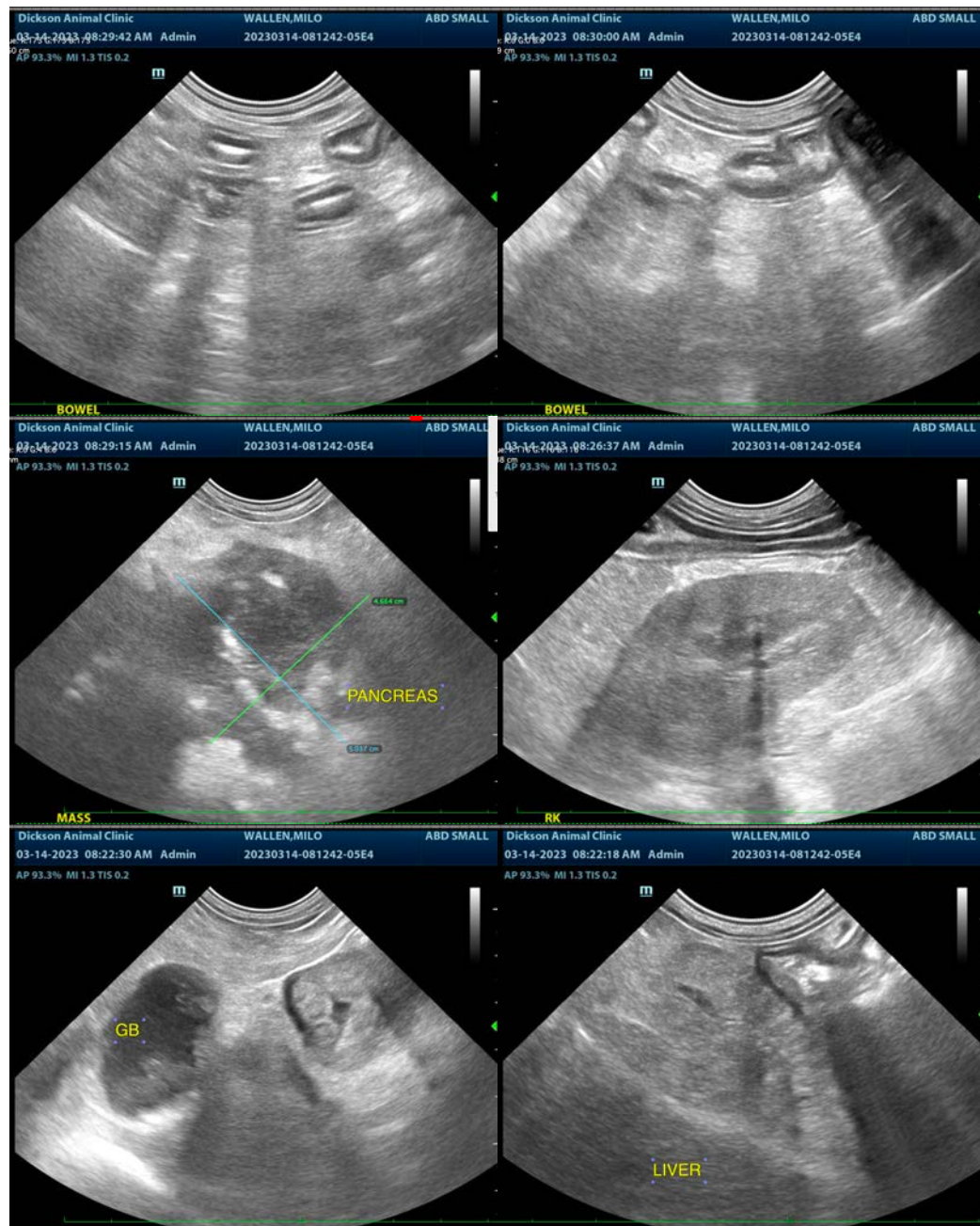
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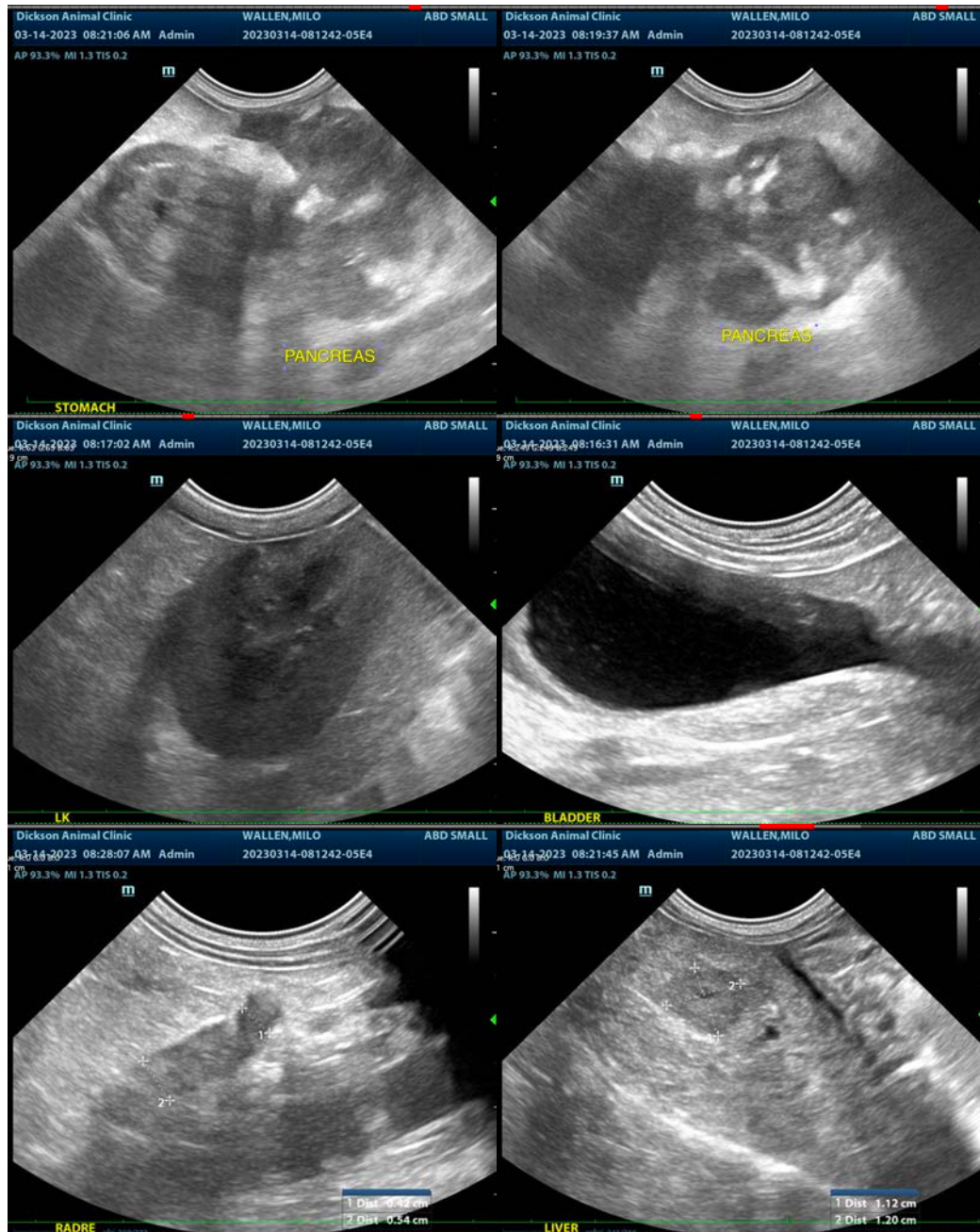
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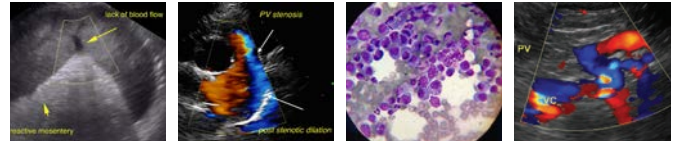
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Beth Johnson, DVM, DACVIM
Beth.Johnson@sonopath.com