



PATIENT

Susie Tamburro

SPECIES

Canine

BREED

Shih Tzu

SEX

Spayed Female

AGE

11 Years

WEIGHT

18.9

INTERPRETED BY

Beth Johnson, DVM
DACVIM

IMAGING PERFORMED BY

Heather

HOSPITAL NAME

ACC Flanders

REFERRING VET

Dr. Cassiuli

INVOICE

17912

DATE

11/7/22

PRESENTING CLINICAL SIGNS

History: severely elevated liver values , weight loss, severe abdominal pain

Abnormal PE/Chem/CBC/UA Results: alb. (lo) - 2.6 , ast 148, alt 1661, alk phos - 4626 , GGTP -210, TOT bili- 1.3

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

Urinary bladder is adequately 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.

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, or infarcts observed. The left kidney measures 4.04 cm. The right kidney measures 5.14 cm. Small non-obstructive areas of mineralization/nephroliths are noted in the right kidney. No mineral was noted in the left kidney. Small cortical cysts were noted bilaterally in the kidneys.

Adrenal Glands

Adrenal glands are plump/swollen in size. Normal shape and contour are maintained without evidence of capsular invasion. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal. The left adrenal gland measures 0.54 cm at cranial pole and 0.67 cm at caudal pole. The right adrenal gland measures 1.1 cm at cranial pole and 0.74 cm at caudal pole.

Spleen

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 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.

Gastrointestinal

The visible stomach wall is normal in thickness 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. 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.



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The visible colon is normal in wall thickness and layering. Contents are consistent with normal formed feces and gas.

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Pancreas

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Pancreas is prominent (enlarged) in size and mildly irregular in shape with a slightly undulating contour. Parenchyma is coarse in echotexture and heterogenous to hypoechoic in echogenicity.

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Free Abdomen

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There is no evidence of peritoneal effusion. There is no apparent lymphadenopathy.

Shih Tzu

ULTRASONOGRAPHIC FINDINGS

SEX

Primary Findings

Spayed Female

- Bilateral adrenomegaly – consistent with adrenal hyperplasia secondary to pituitary dependent hyperadrenocorticism vs stress or normal variant. Interpret in combination with clinical signs of hyperadrenocorticism.

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- 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.

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- Chronic active pancreatitis. A resolving acute on chronic smoldering pancreatitis is possible.
- 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.

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Secondary Findings

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- Age-related kidney changes with cortical cysts and small nonobstructive nephroliths in the right kidney.

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Given this patients reported weight loss and hypoalbuminemia, recommendations include:

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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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 ration is recommended.

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Some of the ultrasound pathology described above could represent hyperadrenocorticism, which may in part be contributing to the reported liver enzyme changes, however, hyperadrenocorticism alone does not typically result in the marked degree of ALT increase reported in this patient and/or the weight loss, etc. Therefore, further evaluation of hyperadrenocorticism is not recommended until any other co-illnesses, etc., causing the sick clinical signs, have been addressed. Therefore, more immediate

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recommendations include testing for Leptospirosis and a fine needle aspirate of the liver.

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In the meantime, given the reported abdominal pain, supportive/symptomatic medical management of possible mild or resolving pancreatitis/gastroenteritis/nonspecific hepatopathy is recommended in the form of antiemetics, gastroprotectants, appetite stimulants, or nutritional support as needed, pain management, broad spectrum antibiotics, hepatic nutraceuticals, and fluid therapy if necessary. If tolerated, a low-fat diet is recommended at least until results of the gastrointestinal panel, etc., are obtained.

BREED

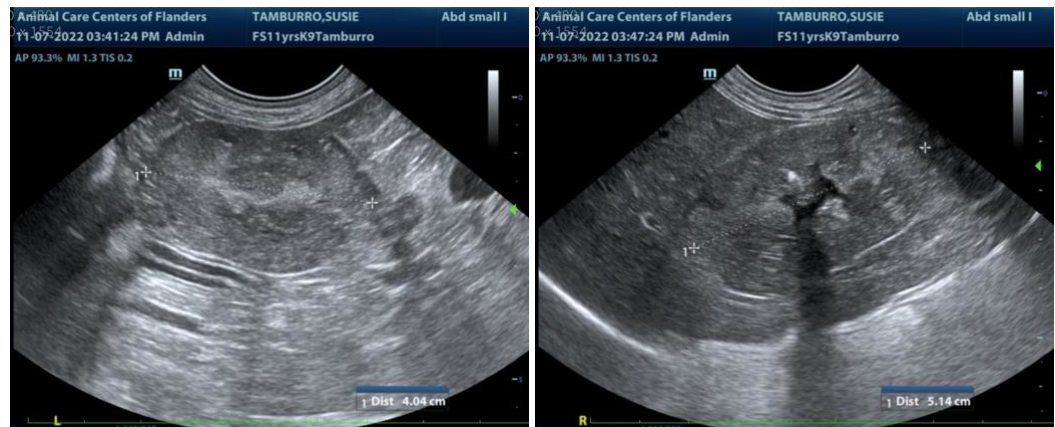
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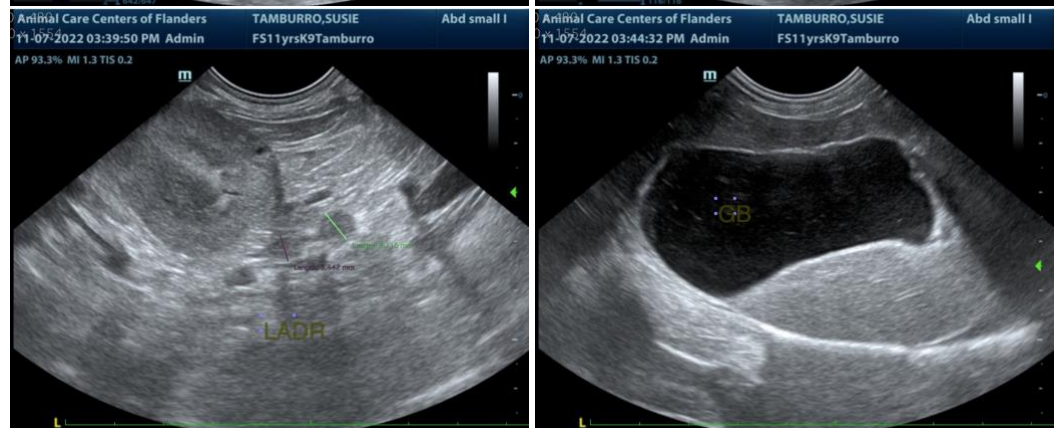
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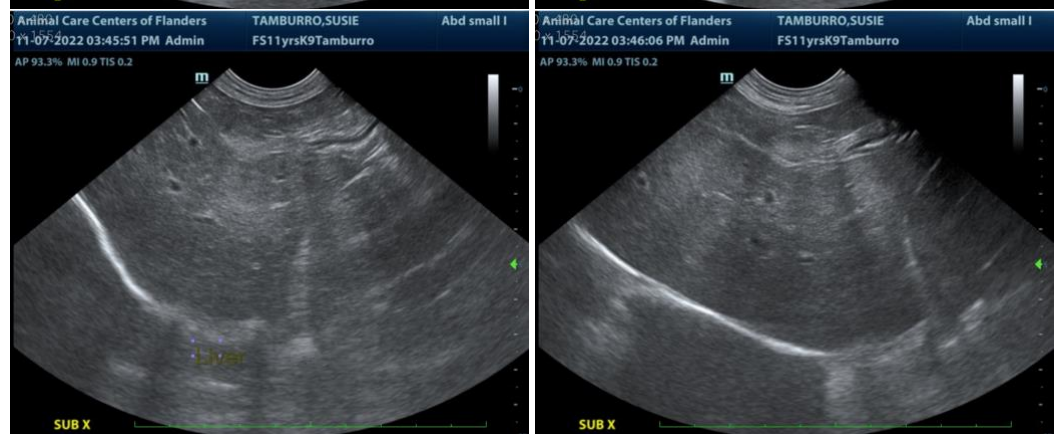


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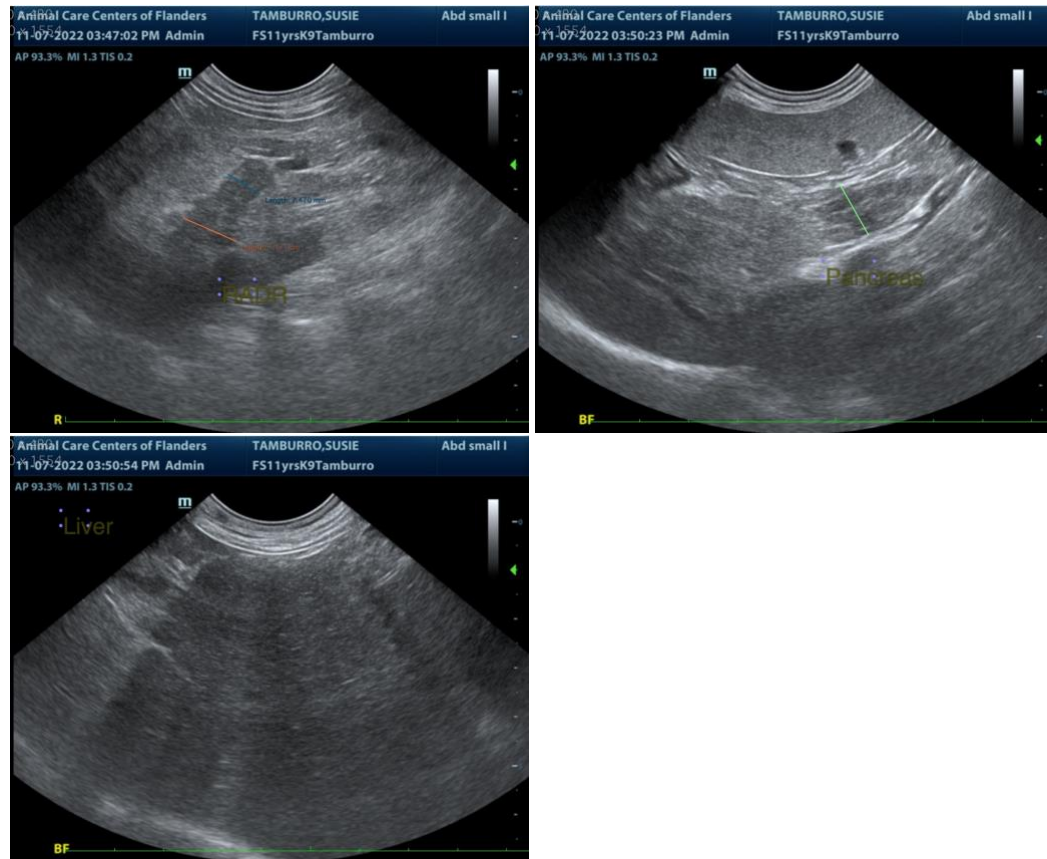
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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