

**DATE PRESENTING CLINICAL SIGNS**

3/3/22 Elevated liver enzymes, not eating.

PATIENT

Lab Results: See attached.
 Date of Previous IntraPet Ultrasound: No previous.
 Missy Long Sedation: Not required to complete full diagnostic ultrasound.
 Stat Report: Not requested.

SPECIES

Canine

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**BREED**

Shih Tzu

Urinary System

The urinary bladder is only mildly distended with anechoic contents as well as both gravity dependent and suspended echogenic, non-shadowing and shadowing mineral debris within the fluid. The cranioventral urinary bladder wall is thick, measuring 0.58 cm in diameter with a mildly irregular hyperechoic mucosa. The visible pelvic urethra is normal in thickness with a smooth mucosal surface. No masses are observed.

SEX

Intact Female

The right kidney is normal in size (4.01 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.

AGE

4/11/08

The left kidney is normal in size (4.53 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.

WEIGHT

14.9 Pounds

Adrenal Glands

The right adrenal gland is normal in size (2.35 cm long x 0.90 cm at the cranial pole and 0.68 cm at the caudal pole), with subjectively plump appearance. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

INTERPRETED BYBeth Johnson, DVM
DACVIM

The left adrenal gland is normal in size (2.02 cm long x 0.58 cm at the cranial pole and 0.54 cm at the caudal pole), with subjectively plump appearance. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

IMAGING PERFORMED BYStephanie Pearce
RDCS, RVT**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.

HOSPITAL NAME

Prime Care AH

Liver

The liver is subjectively enlarged with rounded margins. The caudal left liver has slightly scalloped margins with an almost mass-like appearance. The parenchyma is heterogeneous, characterized by multiple poorly defined, hypoechoic nodules within an otherwise hyperechoic parenchyma. Visible vasculature appears normal.

REFERRING VET

Dr. Martin

GB is moderately distended with anechoic bile and gravity dependent echogenic sediment. The wall is smooth without visible thickening, but is mildly hyperechoic in appearance. There is no evidence of cystic or CBD dilation. There is no evidence of effusion or inflammation.

INVOICE

35883

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 (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.

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

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.

Free Abdomen

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

Both ovaries are visualized, with the left one being cystic. The uterine body is distended with mixed hyperechoic contents that appear to have some blood flow on color flow doppler images.

PRIMARY FINDINGS

- Heterogenous liver – Differentials for hepatic changes include both benign steroid (vacuolar) hepatopathy or extramedullary hematopoiesis as well as infiltrative round cell or metastatic neoplasia. The scalloped edges and degree of nodular change is more concerning for infiltrative neoplasia than a typical heterogeneous vacuolar or reactive hepatopathy.
- Bilateral adrenomegaly – consistent with adrenal hyperplasia secondary to pituitary depending hyperadrenocorticism vs normal variant.
- Thick, distended uterine body characterized by mixed hyperechoic luminal contents – Endometrial hyperplasia with a concurrent mucometra is possible. However, given the vascularity of the luminal contents, there is some concern for uterine neoplasia, while rare in dogs.

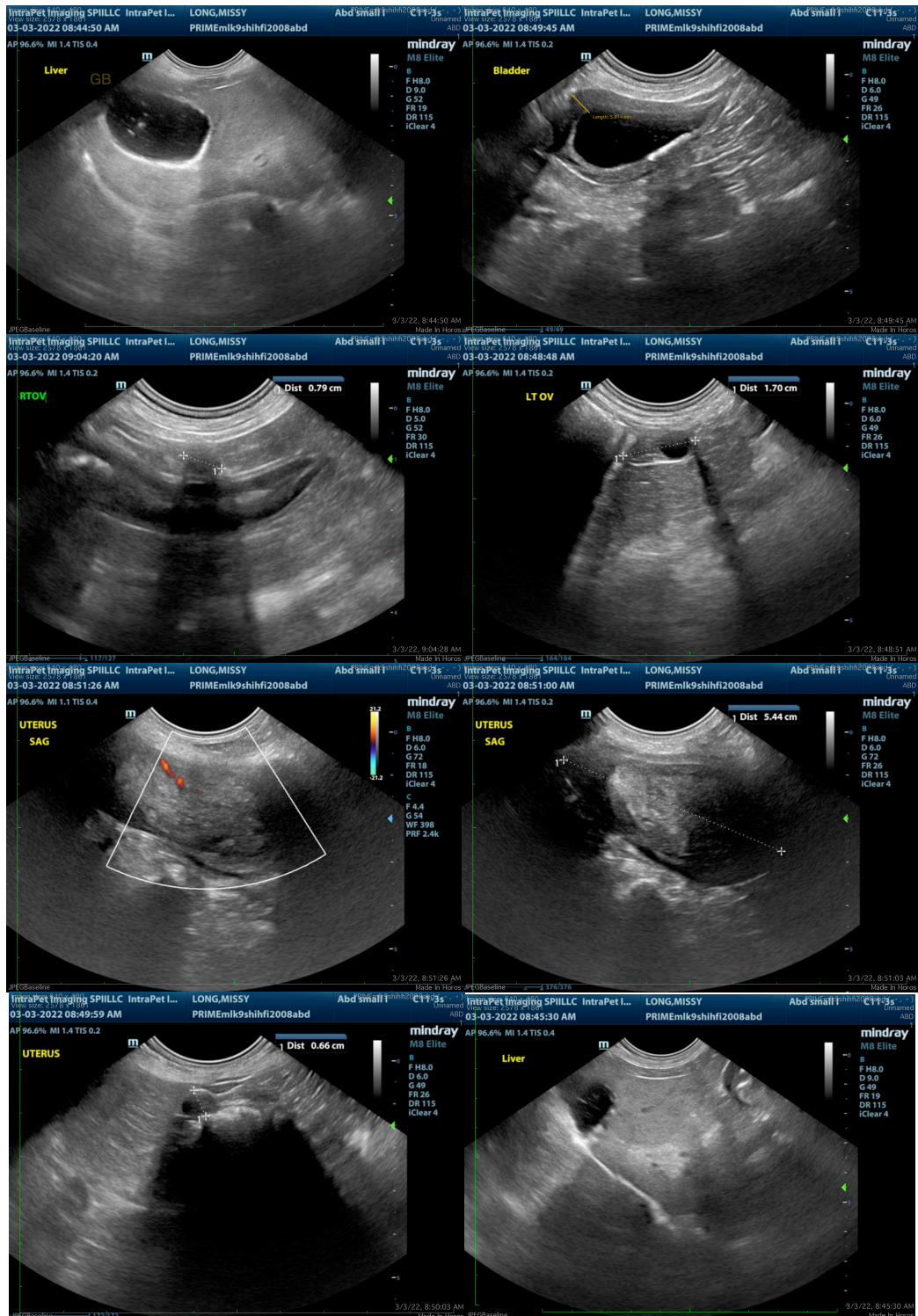
SECONDARY FINDINGS

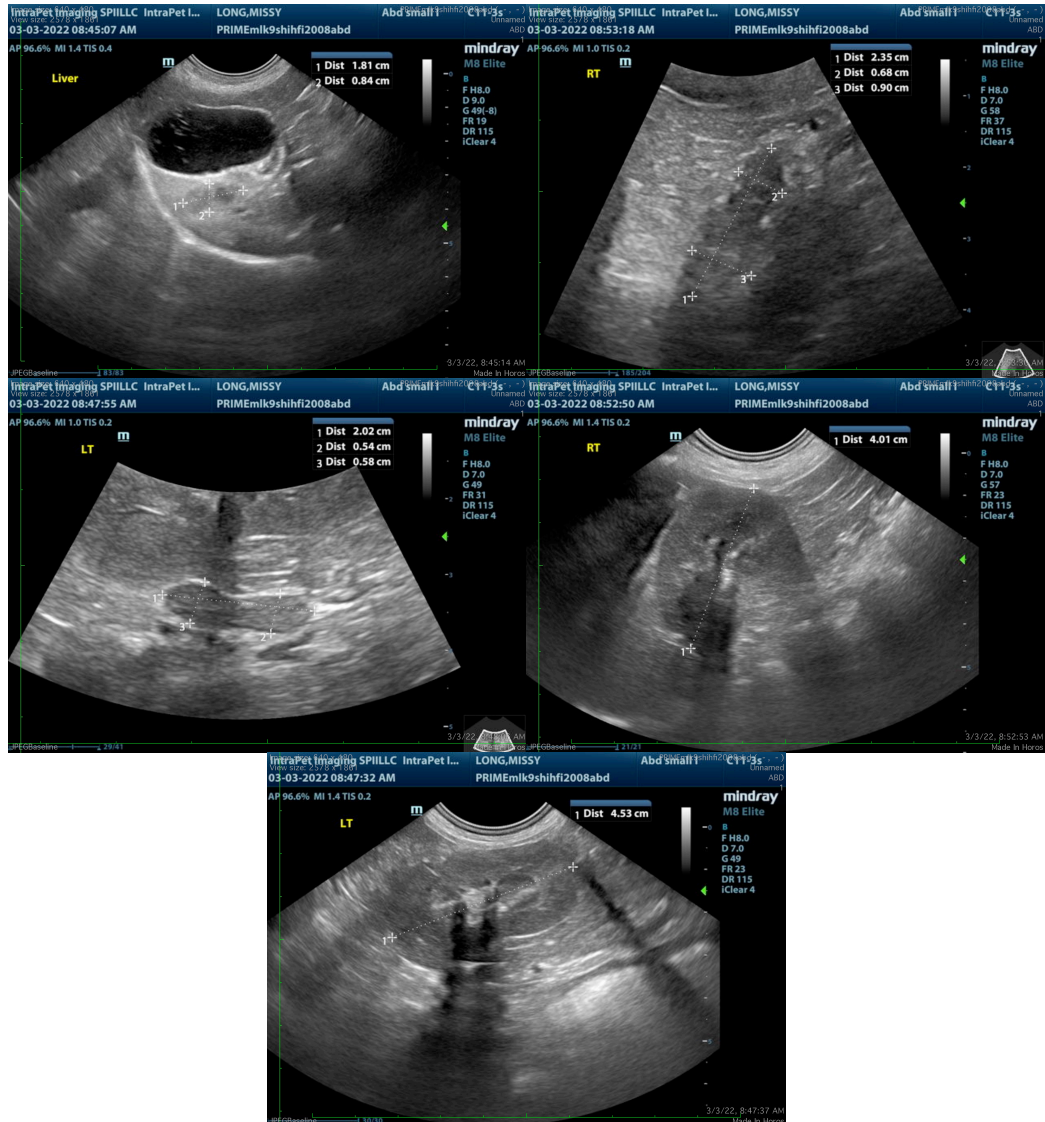
- Chronic Cystitis with mineral debris/sand – Urinary bladder wall changes are most consistent with chronic cystitis. Infiltrative neoplasia cannot be ruled out but is considered less likely given the location and diffuse nature of the changes.
- Gallbladder debris - Cholecystic debris is of unknown 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.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Recommendations include a fine needle aspirate of both the liver and uterine contents if patient's coagulation status is appropriate. If clinical signs of hyperadrenocorticism are present in the form of polyuria, polydipsia, polyphagia, etc., testing for hyperadrenocorticism with a low-dose Dexamethasone suppression test could also be considered as a possible contributing factor to the increased liver enzymes. 3-view thoracic

radiographs are recommended for further evaluation of possible metastatic disease, if not recently evaluated.





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.

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