

**DATE PRESENTING CLINICAL SIGNS**

3/15/22 Referred for continued care for pancreatitis.

PATIENT

Winnie Morse

Current Medications: Buprenorphine, Trazodone, Cerenia.
 Lab Results: ALT-176, ALKP-1889, GGT-40, CHOL-416, AMYL-1887, LIP->6000.
 Date of Previous IntraPet Ultrasound: No previous.
 Sedation: Not required to complete full diagnostic ultrasound.
 Stat Report: Not requested.

SPECIES

Canine

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**BREED**

Beagle X

Urinary System

The urinary bladder is moderately distended with anechoic urine. The Bladder wall, trigone, ureteral papillae and visible urethra (to a depth of 2cm) appear normal with no evidence of cystic calculi. There is a small amount of what I suspect is debris within the urinary bladder measuring 1.83 cm x 1.09 cm. Another less likely differential would be a mucosal irregularity or mass effect. Recommend urinalysis and culture and reevaluation.

SEX

Spayed Female

The left kidney has a normal shape and size (6.35 cm) with small cortical cysts. Overall echogenicity is slightly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

AGE

8/16/10

WEIGHT

29.3 Pounds

The right kidney has a normal shape and size (6.07 cm) with pinpoint non-obstructive nephroliths. Overall echogenicity is slightly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

INTERPRETED BY

Kathleen Sennello DVM,
 MS, Diplomate ACVIM
 (Small Animal Internal
 Medicine)

Adrenal Glands

The left adrenal gland is large in size measuring 0.81 cm at the cranial pole, 1.04 cm at the caudal pole, and 3.19 cm in length. It is observed in its normal position cranial to the left renal artery. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

IMAGING PERFORMED BY

Rachel Brilhart RDMS

The right adrenal gland is large in size measuring 1.69 cm at the cranial pole, 0.87 cm at the caudal pole, and 2.92 cm in length. It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is slightly irregular in appearance in that it is hypoechoic and irregular. The cranial pole is enlarged, which could be a normal anatomic variation, but an early mass lesion cannot be excluded as a possibility.

HOSPITAL NAME

Animal Emergency
 Hospital

Spleen

The spleen is subjectively normal in size, echotexture is homogenous, and the splenic capsule is smooth with no irregularities. The blood flow through the hilus and splenic parenchyma appears normal. No focal parenchymal abnormalities are visualized.

REFERRING VET

Dr. Martinoli

Liver

The liver is large in size, and normal in echogenicity with smooth peripheral margins. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary tract appear normal. There is a moderately sized hyperechoic mass effect visualized measuring 3.8 cm x 3.42 cm. This mass lesion does not deviate the shape of the liver. Additionally, there is a smaller nodule visualized measuring 0.63 cm on the left side.

INVOICE

36192

The gall bladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. There is a moderate amount of non-organized echogenic debris. The cystic and common bile ducts are normal/not visible.

Gastrointestinal

The stomach contains minimal luminal contents. It measures at a normal thickness of <0.7cm with some variability due to the presence of rugal folds. The distinction of the gastric wall layers is adequate and there is no impression of reduced peristaltic activity. No masses or focal lesions were observed.

The visualized areas of duodenum, jejunum and ileum have a uniform diameter with minimal fluid distension. Wall appears subjectively, mildly increased. Bowel loops follow a typical curvilinear path with distinct wall layering. Jejunum wall measured 0.27 cm. Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

The ileocecal junction was visualized and exhibited normal intact wall layering and is subjectively of normal thickness. Sections of colon are visualized with formed fecal material and gas shadowing distally. There is no observed focal or generalized colon wall thickening or loss of layering.

Pancreas

The pancreas is normal and isoechoic to surrounding mesentery. There is no evidence of nodules or cystic lesions. There is no evidence of regional mesenteric inflammation or fluid.

Free Abdomen

Evaluation of the peritoneal cavity did not reveal any evidence of effusion, or subjective lymphadenomegaly. The Medial iliac nodes appear normal and there was no evidence of a caudal aortic thrombus at the bifurcation. The omentum is of normal uniform echogenicity.

PRIMARY FINDINGS

- Suspect echogenic debris in the dependent portion of the urinary bladder – Recommend urinalysis and culture and reevaluation of this area, as a small mass effect cannot be excluded as a possibility.
- Bilateral adrenomegaly with an irregularly shaped right adrenal gland – The bilateral adrenomegaly could be consistent with bilateral hyperplasia (e.g., secondary to pituitary-dependent hyperadrenocorticism), bilateral infiltrative neoplasia, inflammatory adrenal disease, other. Correlation with clinical findings is recommended. Recommend continued monitoring of the right adrenal gland closely, as a mass involving the cranial pole cannot be 100% excluded.
- Large, heterogeneous liver with hyperechoic mass and small nodule – The diffuse hepatic changes are non-specific and could be consistent with vacuolar hepatopathy, nodular hyperplasia, inflammatory/immune-mediated disease, fibrosis, extramedullary hematopoiesis, toxic hepatopathy (e.g., copper), infiltrative neoplasia (less likely) or other hepatopathy. The focal hyperechoic mass lesion could be consistent with a benign or neoplastic lesion.
- Moderate gallbladder sludge – The significance of the aggregated gallbladder sludge is unclear. This could represent an early mucocele, cholestasis, or may be secondary to fasting.

SECONDARY FINDINGS

- Decreased corticomedullary distinction in both kidneys – The bilateral renal findings are consistent with age-related change.
- Mildly thickened small intestine – The mild small intestinal wall changes may be a normal variant in

this patient or could be consistent with an inflammatory process (e.g., inflammatory bowel disease).

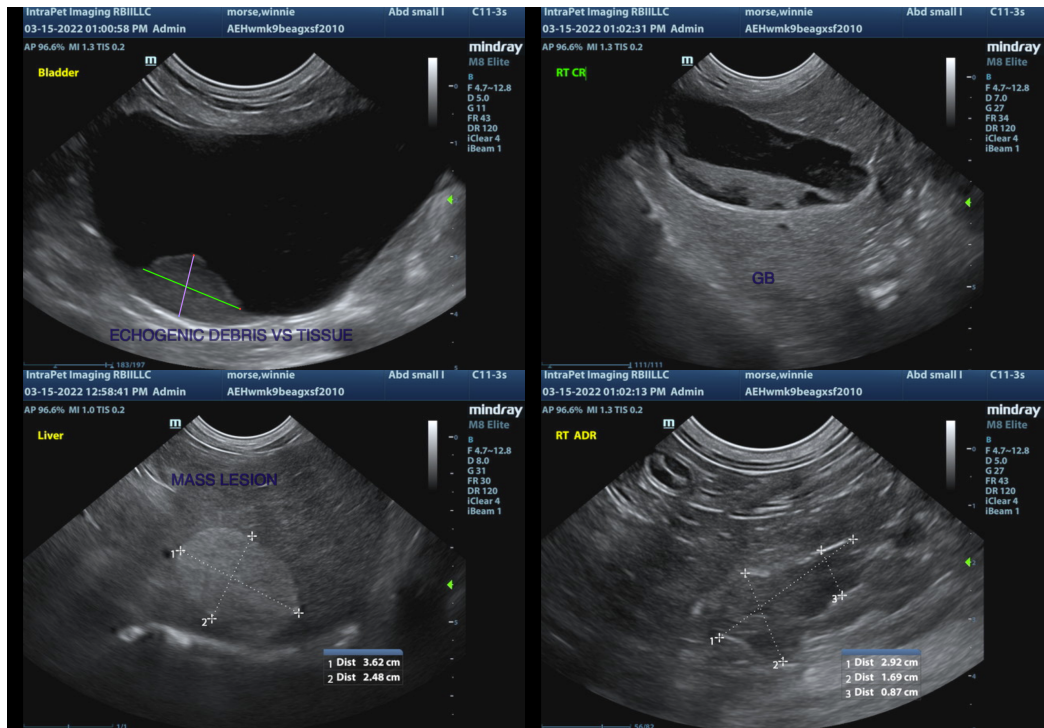
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

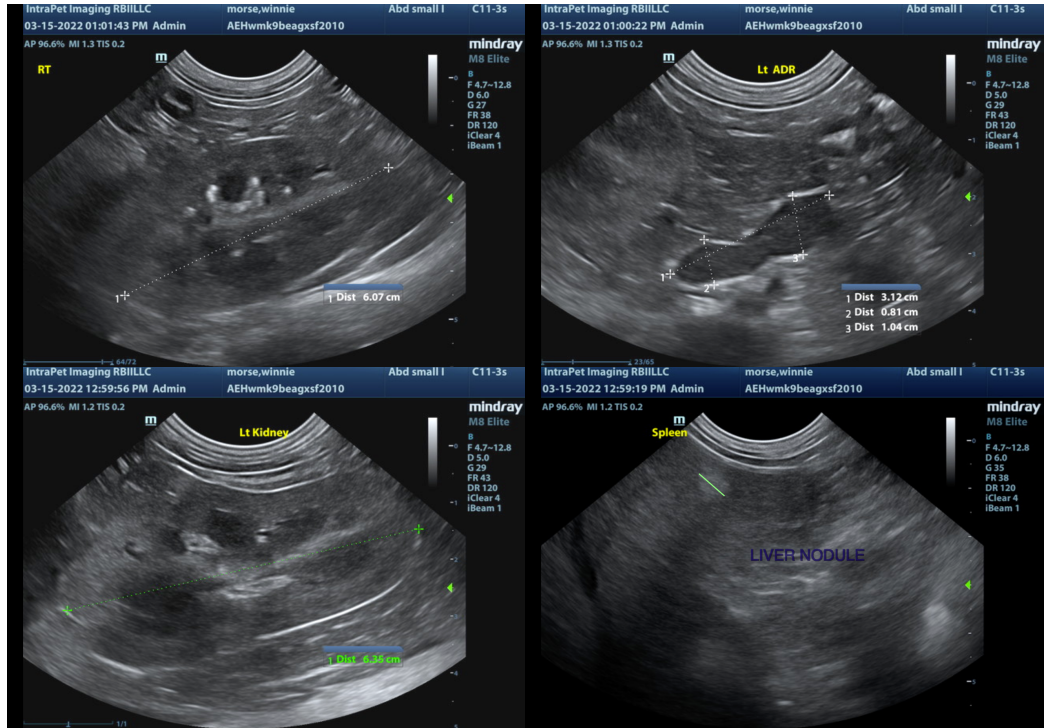
The liver is large and heterogeneous with a focal hyperechoic mass lesion. This lesion is relatively large, but does not appear to be impacting the size or shape of the liver at this time. A fine needle aspirate would likely be challenging due to its depth. Options moving forward include continued monitoring or advanced imaging (a contrast CT scan) to evaluate further for possible surgical removal. It is very possible that a large component of the liver enzyme elevation could be secondary to Cushing's disease.

Both adrenal glands appear large. The right is somewhat irregular in shape. This could represent normal anatomic variation, pituitary dependent hyperadrenocorticism, or an early right adrenal mass. It is unclear based on the history if this patient is currently sick. If so, I do not recommend adrenal function testing until she is feeling better, but this could be considered in the near future. Additionally, if this pet is not feeling well, you could consider a fine needle aspirate of the liver and liver function test, provided coagulation parameters are normal.

There is a small amount of what I suspect is debris in the urinary bladder. Recommend urinalysis and culture and reevaluation of this area with agitation and color flow.

Consider three view thoracic radiographs to rule out concurrent thoracic disease/involvement.





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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