



PATIENT

Harry Ford

SPECIES

Canine

BREED

Husky X

SEX

Neutered Male

AGE

13 Years

WEIGHT

37 kg

INTERPRETED BY

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

IMAGING PERFORMED BY

Erin Wicks

HOSPITAL NAME

Shores VEC

REFERRING VET

Dr. Lupole

INVOICE

46094

DATE

3/23/23

PRESENTING CLINICAL SIGNS

Presented at our hospital for lethargy, not able to stand. Patient had a wellness exam last Wednesday. Bloodwork indicated mild elevation in Liver values. Saturday he had a Thyroid panel done. Tuesday he was not himself, didn't want to eat. Tonight he is vomiting, not able to walk. Previous Health Concerns: arthritis, hypothyroid Current Medications: Deramaxx on and off. After bloodwork, O switched to Galliprant and Denamarin. O thinks he started to decline since they switched so they switched back to Deramaxx Appetite/When did they eat last: decreased, O fed him a steak, ate well, will eat lunch meat

Abnormal PE/Chem/CBC/UA Results: Temp: 104.8 Cardiovascular: muffled; difficult to auscult Respiratory: increased rate Abdominal: tender; sl distended pet had full panel run 5 days ago- showed increased liver values per owner Liver: ALT 359 alp 910 tbili 0.7 Epcoc: lactate 4.87, ca1.56 creat 1.94 bun 32 rads: abnormal detail in mid cranial abdomen; possible fluid - but could not tap any fluid at this time

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is empty. The bladder wall appears thickened, and there is what appears to be an indwelling foley catheter. Evaluation of the urinary bladder is limited due to lack of urine distention.

The visualized areas of prostate and surrounding tissue appear normal. Unfortunately, the prostate is not fully visualized likely due to its intrapelvic location. Correlate with rectal exam findings.

The left kidney has a normal shape and size (7.41 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (7.65 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is normal in size measuring 0.88 cm at the caudal pole. 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.

The right adrenal gland is normal in size measuring 0.58 cm at the caudal pole. It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

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.

Liver

The liver is large, hypoechoic, heterogeneous, irregular, and diffusely nodular. There is a large hyperechoic rounded mass effect on the caudal aspect of the liver measuring 5.41 cm x 5.96 cm.



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Additionally, there are numerous other ill-defined hypoechoic nodules, and there is severe hyperechoic mesentery with echogenic free fluid visualized around the liver.

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The gall bladder lumen is significantly distended. Some areas of the wall appear mildly thickened with adherent debris. There is a large amount of primarily non-organized echogenic debris. There is no evidence of bile duct dilation.

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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.

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The visualized areas of duodenum, jejunum and ileum have a relatively uniform diameter with minimal fluid distension. Wall thickness is normal. Bowel loops follow a curvilinear path with distinct wall layering maintaining the typical 1:3 muscularis:mucosa layer ratio. Duodenum wall measures 0.43 cm. Jejunum wall measures 0.37 cm. Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

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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.

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Pancreas

The right limb of the pancreas appears severely irregular and hypoechoic with a large amount of surrounding hyperechoic mesentery and some fluid. The appearance of this tissue blends in with the hypoechoic, irregular hepatic tissue as it extends cranially. Additionally, there is the appearance of prominent hypoechoic pancreatic tissue cranial to the left kidney. Findings are most consistent with moderate to severe pancreatitis. Neoplastic disease cannot be ruled out.

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Free Abdomen

There is a large volume of echogenic free fluid in the cranial abdomen. There is a cranial abdominal lymphadenopathy with a large hypoechoic lymph node measuring 1.75 cm in diameter. The omentum is severely hyperechoic with complex echogenic fluid, particularly in the cranial abdomen.

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ULTRASONOGRAPHIC FINDINGS

- Large, irregular, hypoechoic, mottled pancreas with severe surrounding inflammation and some free fluid (particularly the right limb) – The pancreatic changes are most consistent with moderate to severe pancreatitis/pancreatic inflammation. Recommend fPLI testing and continued monitoring for improvement or possible development of a pancreatic abscess. Consider fine needle aspirate if not improving.
- Heterogeneous, hypoechoic, diffusely nodular liver with a large mixed echogenic hyperechoic mass effect and severe surrounding inflammation and fluid – The liver seems to be the nidus for the inflammation noted. There is concern for a possible ruptured mass effect, necrotic mass effect, abscess, other.
- Large distended gallbladder with a large amount of intraluminal debris – The significance of the aggregated gallbladder debris is unclear. This could represent an early mucocele, cholestasis, or may be secondary to fasting but seems unlikely to be causing a current issue. Recommend continued monitoring.

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- Large volume echogenic free fluid – Findings are most consistent with peritonitis or hemorrhage. Recommend sampling for fluid analysis and cytology +/- culture.

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- Moderate cranial abdominal lymphadenopathy – The moderate mesenteric lymphadenopathy could be concerning for a neoplastic process, although you can see significant lymphadenopathy in some cases of autoimmune/inflammatory disease, infectious disease (tick born disease-such as bartonella, fungal infections, FIP (cats)) etc. A fine needle aspirate with cytology is recommended for further evaluation.

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

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There is a large amount of severe inflammation in the cranial abdomen. This appears to be primarily surrounding the liver. In some areas the margins of the liver and pancreas are difficult to distinctly demarcate, as they coalesce with the echogenic fluid and surrounding inflammatory tissue. There is a large hyperechoic mass effect visualized in the liver. Additionally, it appears somewhat diffusely nodular with smaller hypoechoic nodules/mass effects.

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Additionally, the pancreas, particularly the right limb, is hypoechoic and prominent and has severe inflammation surrounding it. Findings are concerning for a possible ruptured mass effect or abscess/necrotic center, likely with secondary severe pancreatitis. It is unknown if this is an underlying neoplastic process, or if this could be a benign necrotic mass or infected tissue. Ideally, a contrast CT scan would be done on an emergency basis and referral to a veterinary surgeon for surgical evaluation, debridement, with samples submitted for histopathology, culture, etc. Based on the appearance of today's scan, I suspect surgical intervention would be necessary.

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Alternately, an explore could be done without a CT scan, but there is concern that a liver lobectomy, possible partial pancreatectomy, etc. may be necessary. If medical management is temporarily considered, recommend broad-spectrum antibiotics, ideally fluid sampling for cytology and fluid analysis (try to place the patient in a position where the fluid will pool in an accessible spot to aspirate), IV fluids, pain medications, etc., but I suspect the prognosis would be guarded. A fine needle aspirate of the liver could be considered provided coagulation parameters are normal.

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Recommend three view thoracic radiographs to evaluate for possible concurrent thoracic disease/involvement.

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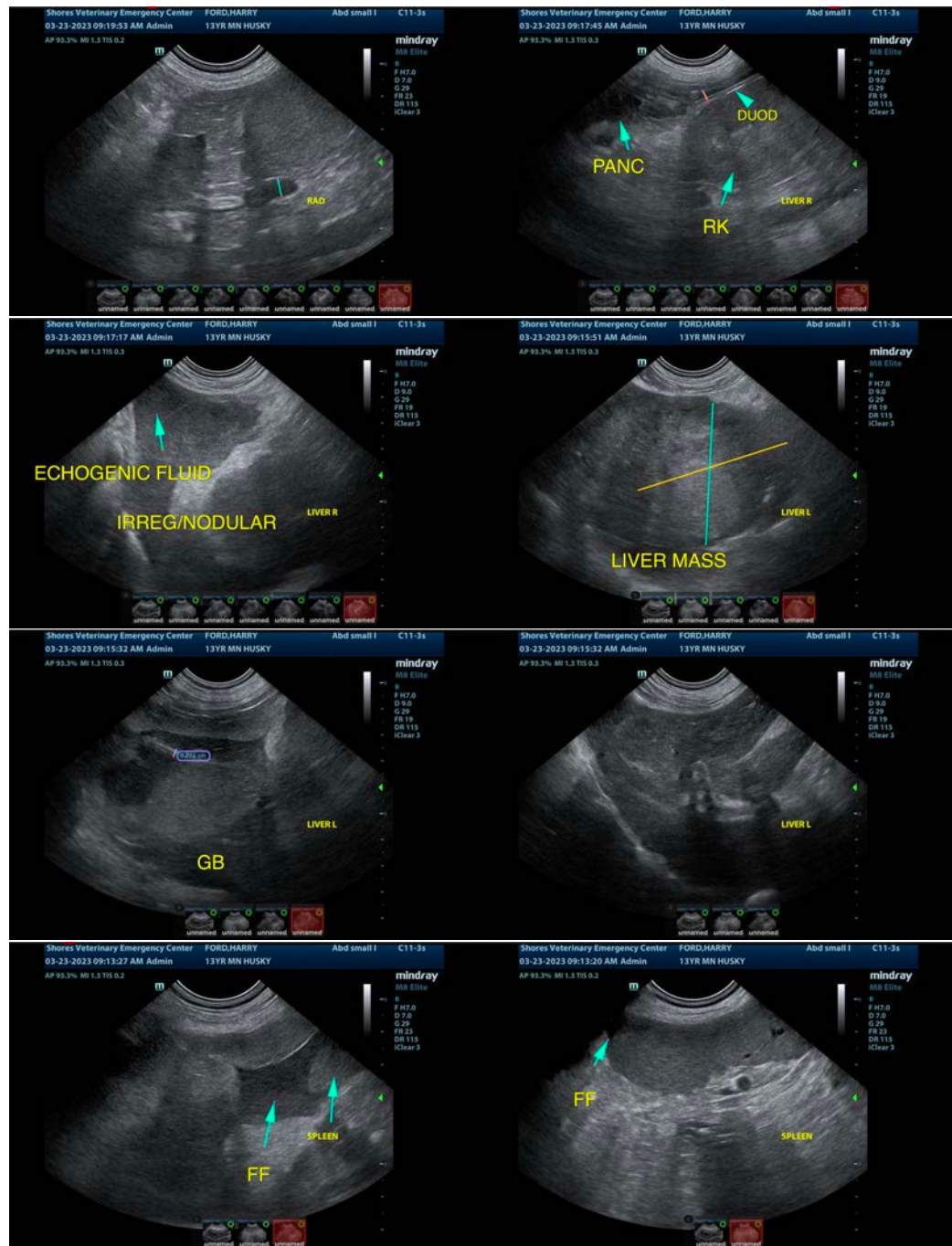
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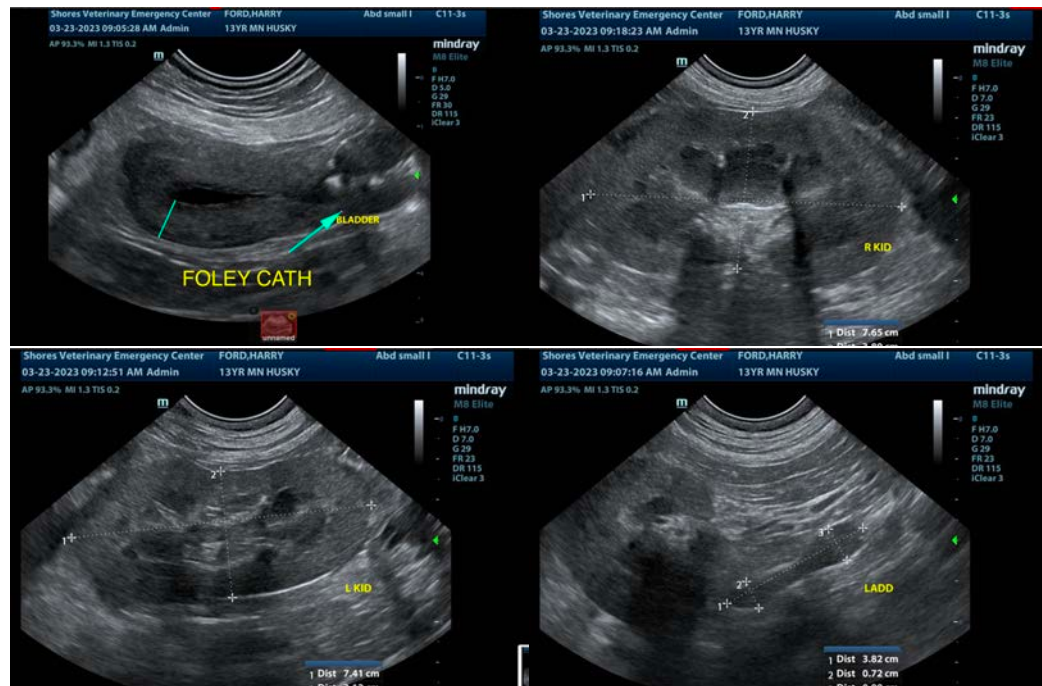
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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

kathleen.sennello@sonopath.com

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