IMAGING PERFORMED BY

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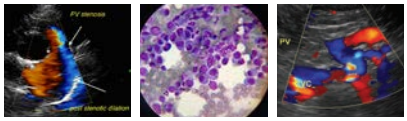

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DATE

10/29/21

PATIENT

Pepper Walker

SPECIES

Canine

BREED

Border Collie

SEX

Intact Female

AGE

11/12/12

WEIGHT

N/A

INTERPRETED BY

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

HOSPITAL NAME

Animal Emergency Hospital

REFERRING VET

Dr. Kalwa

INVOICE

26766

PRESENTING CLINICAL SIGNS

Presenting Complaint: Referral Ultrasound**. Date:** 10-29-2021 **Notes:** PC: Referral from NorthEast for US. Known diabetic, did not eat this am. No insulin this am. Current medication: - Vetsulin: 9 U am; 8 U pm (6am; 5:30pm) ATO- early spring diagnosed diabetes, panting, decreased activity. Ate breakfast and dinner last night but started noticing decreased energy last night Normally receives insulin 6:30- 7am; 5:30pm. not eating this am- no meds today Didn't want to get up this am Had seizure in August - gave molasses this am belly seemed full. INTACT female- previous farm dog never had puppies. Saw rDVM today- x rays and bw, febrile, concerned for liver mass on x ray, bw- elevated liver values.

Current Medications: Vetsulin 9U am, 8U pm.
Lab Results: rDVM bloodwork: HCT 37.7%; WBC WNL, decreased neutrophil count + bands; PLT 40k Glucose 410, BUN 29, ALT 464; ALKP 1781; Tbili 1.7, Na/k 32; Icteric; UA- not performed Ketones- not performed BP- not performed.
Radiographs: rDVM- concerned for liver mass. AFAST/TFAST: tachycardic 180 HR; AFAST- No FF.
Date of Previous IntraPet Ultrasound: No previous IntraPet scans.
Sedation : declined but not needed
Stat : not requested

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

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 wall thickening, mucosal irregularities, masses or cystic calculi.

The left kidney has a normal shape and size (6.98 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, infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (7.61 cm) with 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, infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is normal in size measuring 0.67 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 0.83 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 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 an ill-defined area of very mottled/heterogeneous and cystic tissue creating a mass effect, measuring 9.2 cm x 5.94 cm.

The gall bladder lumen is moderately distended. The wall of the gall bladder is somewhat hyperechoic and prominent, measuring 0.32 cm. There is a mild amount of non-organized echogenic debris. The cystic and common bile ducts are normal/not visible.

Gastrointestinal

The stomach is moderately dilated with fluid and irregular shadowing material most consistent with normal ingesta and gas. 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 layering 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 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. The duodenum measured as normal (between 0.3-0.5cm in wall thickness) and the jejunum measured as normal (between 0.2-0.47cm.) 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 large and hypoechoic to surrounding mesentery. There is no evidence of nodules or cystic lesions. There is evidence of regional mesenteric inflammation. Consistent with mild/moderate pancreatitis.

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.

Other

A brief view of the heart was submitted. No significant pericardial effusion was seen.

The body of the uterus and both ovaries were visualized and appear within normal limits.

Ringdown artifact is seen at the level of the diaphragm, which is concerning for pulmonary parenchymal disease. Recommend 3-view thoracic radiographs.

PRIMARY FINDINGS

- Hypoechoic pancreas surrounded by hyperechoic mesentery – most consistent with mild to moderate pancreatic inflammation.

- Large, heterogeneous liver with non-discreet cystic mass effect – 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.

- Large amount of shadowing material within the gastric lumen – most consistent with ingesta. Correlate with feeding history. If adequately fasted, then consider such differentials as delayed gastric emptying or partial outflow tract obstruction (none observed).

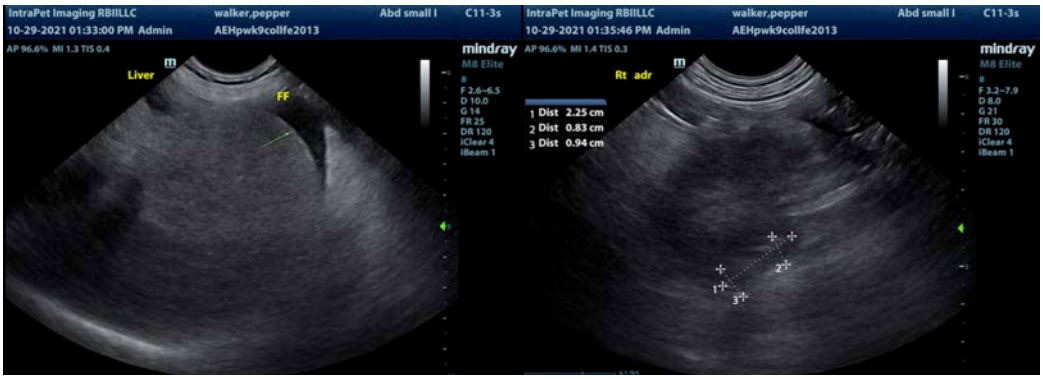
SECONDARY FINDINGS

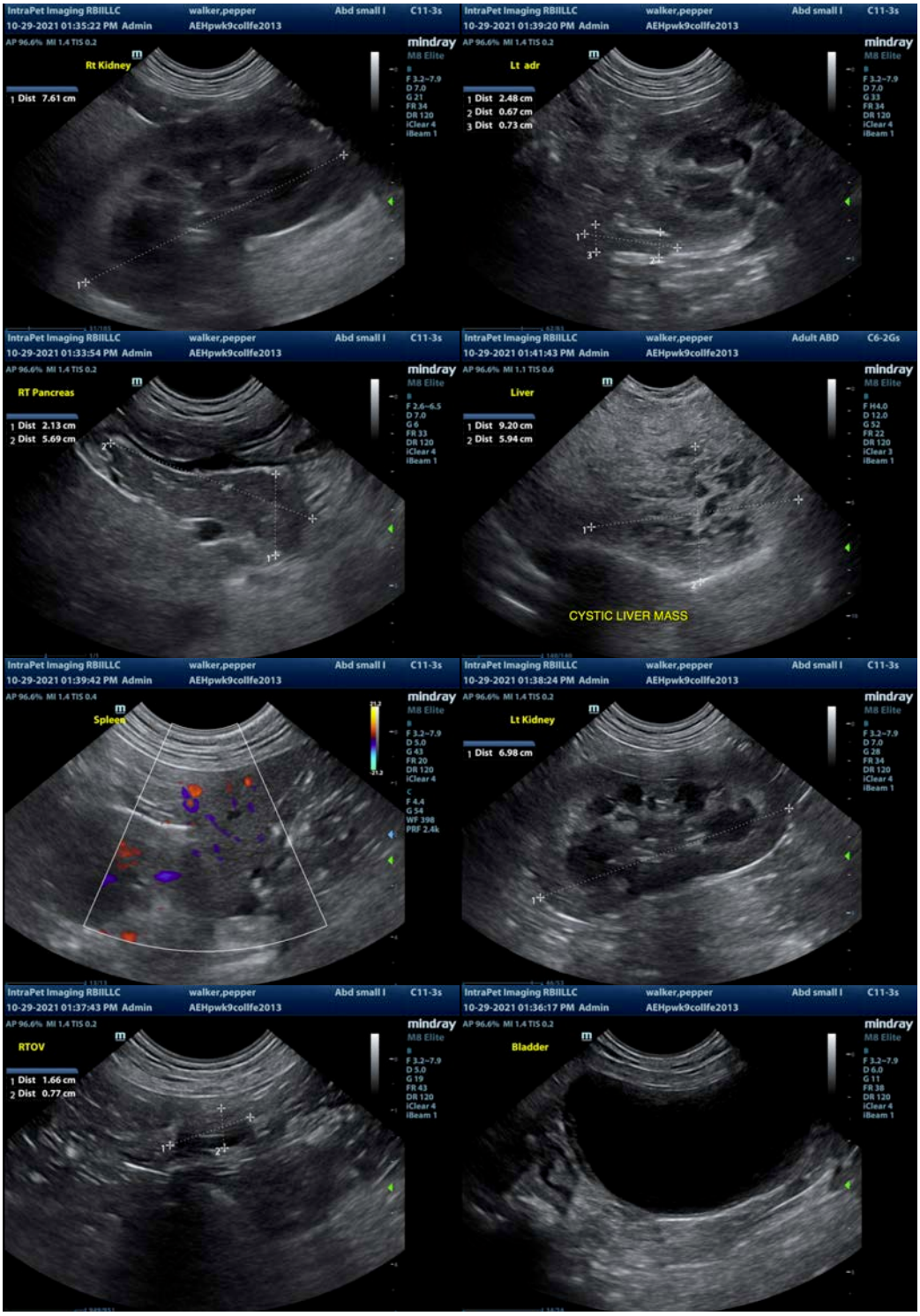
- Mildly reduced corticomedullary distinction and pinpoint non-obstructive nephroliths in both kidneys – The bilateral renal findings are consistent with age-related change.
- Mildly thickened/prominent gallbladder wall – The significance of this is unclear, as the gallbladder is not distended and there is no significant intraluminal material. This is liely within normal limits.
- Ringdown artifact is visualized at the level of the diaphragm. This can be an indicator of intrathoracic disease – recommend 3-view thoracic radiographs.
- Intact female – no pathology associated with uterus or ovaries noted.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The pancreas is prominent and hypoechoic, and appears inflamed. Additionally, the liver is large and heterogeneous, and has an indiscreet mass effect. This very well may be an incidental finding, but may need to be dealt with in the future. Many of the ultrasonographic abnormalities noted are age related and possibly "normal" for an older diabetic. The elevated bilirubin is concerning, but may be associated with the concurrent pancreatitis and a partial biliary obstruction, although none is observed.

- Recommend evaluation for DKA and supportive care to try to get this diabetic patient more stabilized, better hydrated, etc. Recommend urinalysis and culture and a quantitative PLI to evaluate for pancreatitis.
- Intact female dogs are notoriously difficult diabetic patients to manage. Once this patient is stabilized and feeling better, recommend ovariohysterectomy to improve general health and glycemic control.
- Consider a fine needle aspirate to rule out round cell neoplasia and continued monitoring of the bilirubin to look for evidence of a biliary obstruction. Additionally, the bilirubin can go up with sepsis. Recommend 3-view thoracic radiographs to look for evidence of pneumonia, and a urine culture to look for evidence of a possible source of infection.
- Once this patient is feeling better, further evaluation of the cystic hepatic mass is possible. Consider CT scan to better delinate the margins and determine if surgical resection is an option.

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walker,pepper
Abd small I
C11-3s
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AEHpwk9collfe2013
Rt Kidney
1 Dist 7.61 cm
IntraPet Imaging RBIILLC
walker,pepper
Abd small I
C11-3s
10-29-2021 01:39:20 PM Admin
AEHpwk9collfe2013
Lt adr
1 Dist 2.48 cm
2 Dist 0.67 cm
3 Dist 0.73 cm
IntraPet Imaging RBIILLC
walker,pepper
Abd small I
C11-3s
10-29-2021 01:33:54 PM Admin
AEHpwk9collfe2013
RT Pancreas
1 Dist 2.13 cm
2 Dist 5.69 cm
IntraPet Imaging RBIILLC
walker,pepper
Adult ABD
C6-2Gs
10-29-2021 01:41:43 PM Admin
AEHpwk9collfe2013
Liver
1 Dist 9.20 cm
2 Dist 5.94 cm
CYSTIC LIVER MASS
IntraPet Imaging RBIILLC
walker,pepper
Abd small I
C11-3s
10-29-2021 01:39:42 PM Admin
AEHpwk9collfe2013
Spleen
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C11-3s
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AEHpwk9collfe2013
Lt Kidney
1 Dist 6.98 cm
IntraPet Imaging RBIILLC
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Abd small I
C11-3s
10-29-2021 01:37:43 PM Admin
AEHpwk9collfe2013
RTOV
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2 Dist 0.77 cm
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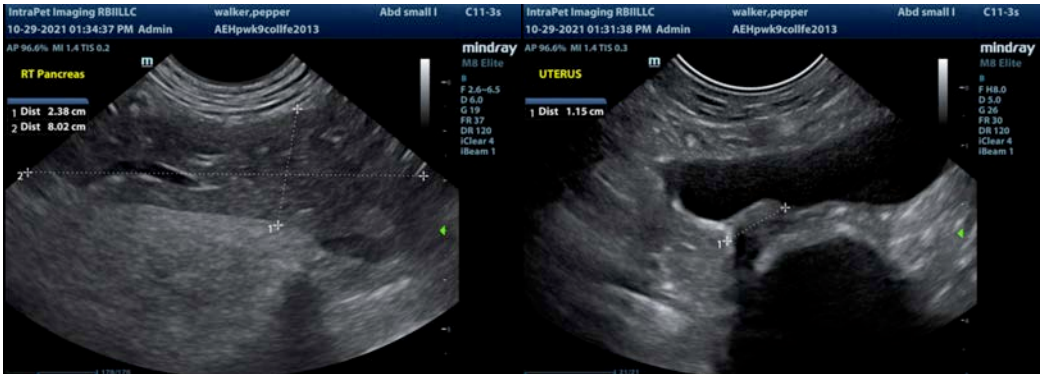
AEHpwk9collfe2013
Bladder



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.

Kathleen Sennello DVM,MS, Diplomate ACVIM (Small animal Internal Medicine)
kathleen.sennello@sonopath.com