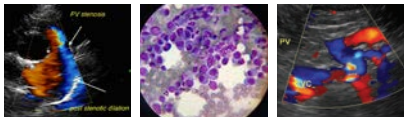
IMAGING PERFORMED BY

IntraPet.com



SonoPath

Clinical Sonography & Telecytology

EDUCATIONAL TELECONSULTATION SERVICES™

1-800-838-4268 info@sonopath.com SonoPath.com

DATE

7/22/22

PATIENT

Ralphy Cherry

SPECIES

Canine

BREED

Weimaraner

SEX

Neutered Male

AGE

11/26/08

WEIGHT

103 Pounds

INTERPRETED BY

Lisa Carioto, DVM, DVSc, Diplomate ACVIM

IMAGING PERFORMED BY

Stephanie Pearce RDCS, RVT

HOSPITAL NAME

Chadwell AH

REFERRING VET

Dr. Schaupp

INVOICE

39770

PRESENTING CLINICAL SIGNS

History of Cushings dz _ under control. Presented for profound lethargy, poor appetite. PE - 4 lbs weight loss, tacky mucous membranes, nice pink color, slightly muffled heart sounds, no arrythmia, good pulses, HR- 147 BPM, Temp - 103 F. No murmur ausculted. Abdomen soft, no ascites. Rectal - no palpable mass

Current Medications: Vetoryl - 60 mg - 1 cap QD, IV LRS in hospital, 100 mg Enrofloxacin IV BID.
Lab Results: WBC: 32, 650 with 91% neutrophils, Hct - 39%
Chemistry - corrected calcium 12.8 mg/dl, Alk Phos - 517 (Cushings dz). Urinalysis - Pyuria, microscopic hematuria with presence of bacteria
Radiographs: round mass seen on dorsal cardiac silhouette on lateral view and to the left of the heart on the VD view. Cardiac silhouette appears misshapen.
Date of Previous IntraPet Ultrasound: No previous.
Sedation: Not required to complete full diagnostic ultrasound.
Stat Report: Not requested.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The **urinary bladder** is well distended with anechoic contents. The wall is smooth and regular. No abnormalities are noted with the trigone or proximal urethra, and there is no evidence of sediment, cystoliths, polyps or a mass.

Kidneys
The **left** kidney measures 8.13 cm. The capsule is smooth. The cortex is very mildly hyperechoic. A very mild loss of the normal definition of the cortico-medullary junction is present. Occasional and small mineralizations of the diverticulae and pelvis are present, without evidence of nephroliths or pyelectasia. Blood flow is within normal limits, and subjectively, mildly increased. A round, anechoic structure, with a smooth, thin wall, measuring 3.2 mm in diameter x 2.5 mm in length, is visualized within the cortex at the mesenteric border. It is most consistent with a benign cyst. The surrounding mesentery is mildly hyperechoic.

The **right** kidney measures 8.18 cm. Findings are similar to the left kidney, however, blood flow does not appear as exaggerated compared to the left.

Aortic bifurcation/trifurcation No abnormalities observed.

Adrenal Glands

The **left** adrenal gland measures 0.99 cm at the cranial pole, 1.02 cm at the caudal pole and 3.12 cm in length. Although the gland is enlarged and "plump", no abnormalities are noted with the gland's overall architecture, echogenicity or echotexture. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

The **right** adrenal gland measures 1.59 cm at the cranial pole, 0.72 cm at the caudal pole and 1.90 cm in length. The cranial pole is enlarged, however, the capsule remains intact and the parenchyma is homogeneous with the remainder of the gland. Obvious signs of a mass are not appreciated. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

Spleen

The spleen is within normal limits in size, architecture, echotexture, and echogenicity. The capsule is smooth. No abnormalities are observed with its vasculature, i.e. congestion and thrombi are not identified.

Liver

Mild hepatomegaly is suspected, which was confirmed radiographically. The liver's borders are smooth and vary between sharp to rounded. The liver's echotexture is homogeneous and it is within normal limits in echogenicity. The walls of the portal veins are hyperechoic, i.e. they are more prominent, however, no other abnormalities are observed with the hepatic vessels visualized. The mesentery surrounding the liver and stomach is mildly hyperechoic.

A hyperechoic nodule measuring 1.07 cm in diameter x 1.21 cm in length is noted. A second nodule consisting of a hyperechoic region eccentrically located with a hypoechoic "halo" is observed adjacent to the first nodule. The second nodule measures 1.72 cm in diameter x 1.74 cm in length. The hyperechoic nodule measures 1.23 cm in diameter x 1.02 cm in length. The latter is suggestive of fibrosis or nodular regeneration or nodular hyperplasia, rather than a "target"- like lesion.

The gallbladder (GB) wall is within normal limits in thickness and echogenicity. A small amount of free floating and gravity dependent echogenic material is present within the GB. Sludge is present at the neck of the GB as it extends into the cystic duct. The portions of the cystic and/or common bile ducts observed are not dilated or tortuous, i.e. there are no signs of an obstruction.

Gastrointestinal

Gas and a small amount of fluid are present within the lumen of the stomach. The gastric wall is within normal limits in thickness and the wall layers are well defined. No obvious abnormalities are observed with its peristalsis. The mesentery surrounding the stomach and liver is mildly hyperechoic.

The small intestinal wall thickness, including the duodenum, is within normal limits and the definition of the wall layers is preserved, however, the submucosa of a few segments of jejunum is more prominent than usual. A large amount of gas is present in the lumen of the small intestines. Peristalsis is mildly decreased, i.e., a "to and fro" motion is noted. Abnormally dilated loops of bowel are not observed.

The colonic wall is not thickened and mural detail is considered normal.

Pancreas

The right limb is significantly enlarged, and has a coarse echotexture. It is also mildly to moderately hypoechoic with scalloped borders. The surrounding mesentery is moderately hyperechoic. Hypoechoic nodules of variable size and pinpoint to punctate hyperechoic foci are scattered throughout the parenchyma. The former abnormalities are suggestive of active pancreatitis, while the latter are most likely due to age-related changes, such as nodular hyperplasia and fibrosis, respectively. Fibrosis may occur secondary to age, previous episodes of pancreatitis, mineralization, as well as amyloid deposition. Overt signs of neoplasia are not noted.

Similar findings are noted with the **left limb,** however, they are not as severe.

Other

Lymph nodes No abnormalities are observed

Abdominal effusion is not visualized.

Heart

A brief video clip of the heart was submitted. Pericardial and pleural effusion are not identified. Pulmonary edema is not visualized. An obvious mass is not observed on evaluation of the cardiac chambers, including the right auricle. Abnormalities are not evident with contractility, echogenicity of the endocardium or myocardium. The right ventricle appears very mildly dilated in the short axis view (slightly greater than 3:1 ratio), however, a complete echocardiogram is required to confirm this finding. The pulmonary valve and

portion of the aortic valve visualized does not show any abnormalities. The aorta and pulmonary artery are within normal limits. Note, a mass may be overlooked in the absence of pericardial effusion.
At least three sets of "B lines" or "rockets signs" are noted via the abdomen, while evaluating the liver. This finding is suggestive of pulmonary pathology, for example, fluid (pulmonary edema), a cellular infiltrate, (pus), inflammatory cells (bronchitis), or infiltrative disease (neoplasia).
An obvious thoracic or cardiac mass is not visualized.

ULTRASONOGRAPHIC FINDINGS

- **Pancreas**: High index of suspicion of active pancreatitis, age-related changes, and fibrosis due to previous episodes of pancreatitis.

- **Adrenal glands**: Adrenomegaly associated with pituitary dependent hyperadrenocorticism (HAC). The glands tend to remain enlarged with trilostane (Vetoryl) therapy. The cranial pole of the right adrenal gland is enlarged and in the form of a "Shepherd's hook", yet remains homogeneous compared to the remainder of the gland. This can be normal for some individuals, however, an adenoma is possible. A pheochromocytoma is also possible based on Ralphy's clinical signs.

- **Kidneys**: Possible increased blood flow, which may be suggestive of hypertension. Pyelonephritis cannot be excluded.

- **Liver**: Vacuolar and reactive hepatopathies are suspected, in addition to nodular and regenerative hyperplasia. Fibrosis could also explain the hyperechoic nodule. Obvious signs of neoplasia are not noted.

- **Gallbladder**: Gallbladder sludge is most likely clinically insignificant, however, gastroesophageal reflux disease (GERD), can occur in some patients. Obtaining a history regarding signs of GERD from the client is suggested. Treatment with an anti-acid or proton pump inhibitor may be required.

- **Gastrointestinal tract**: A mild ileus is present, which may be due to general "malaise".

- **Pulmonary mass**: An obvious thoracic or cardiac mass is not visualized. However, based on the thoracic radiographs differential diagnoses include, a histiocytic sarcoma, bronchogenic alveolar carcinoma, and abscess.

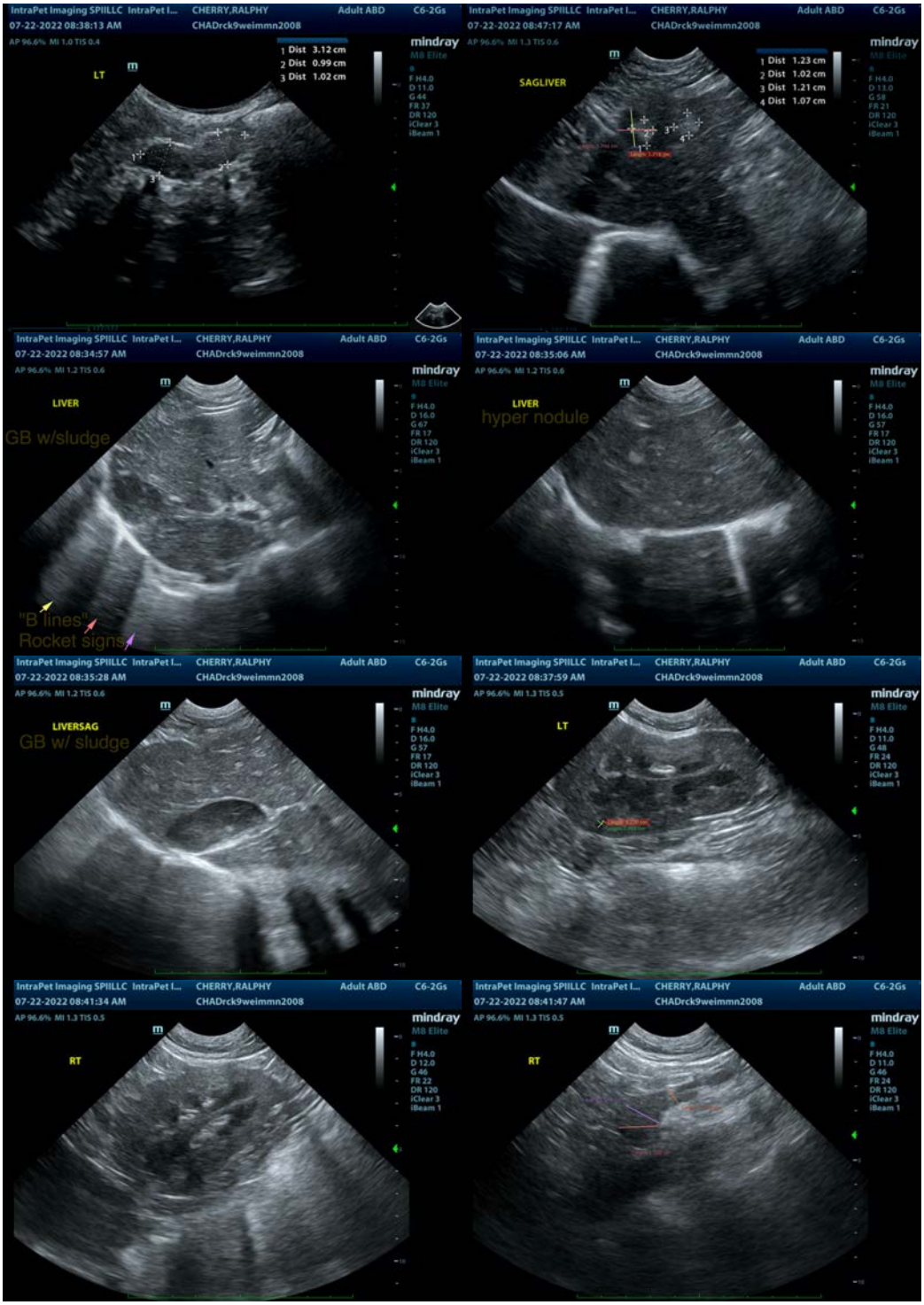
- **Pleural effusion**: Pleural effusion of unknown etiology. Compression of the thoracic duct, vasculitis, neoplasia (carcinomatosis), etc., are possible differential diagnoses.

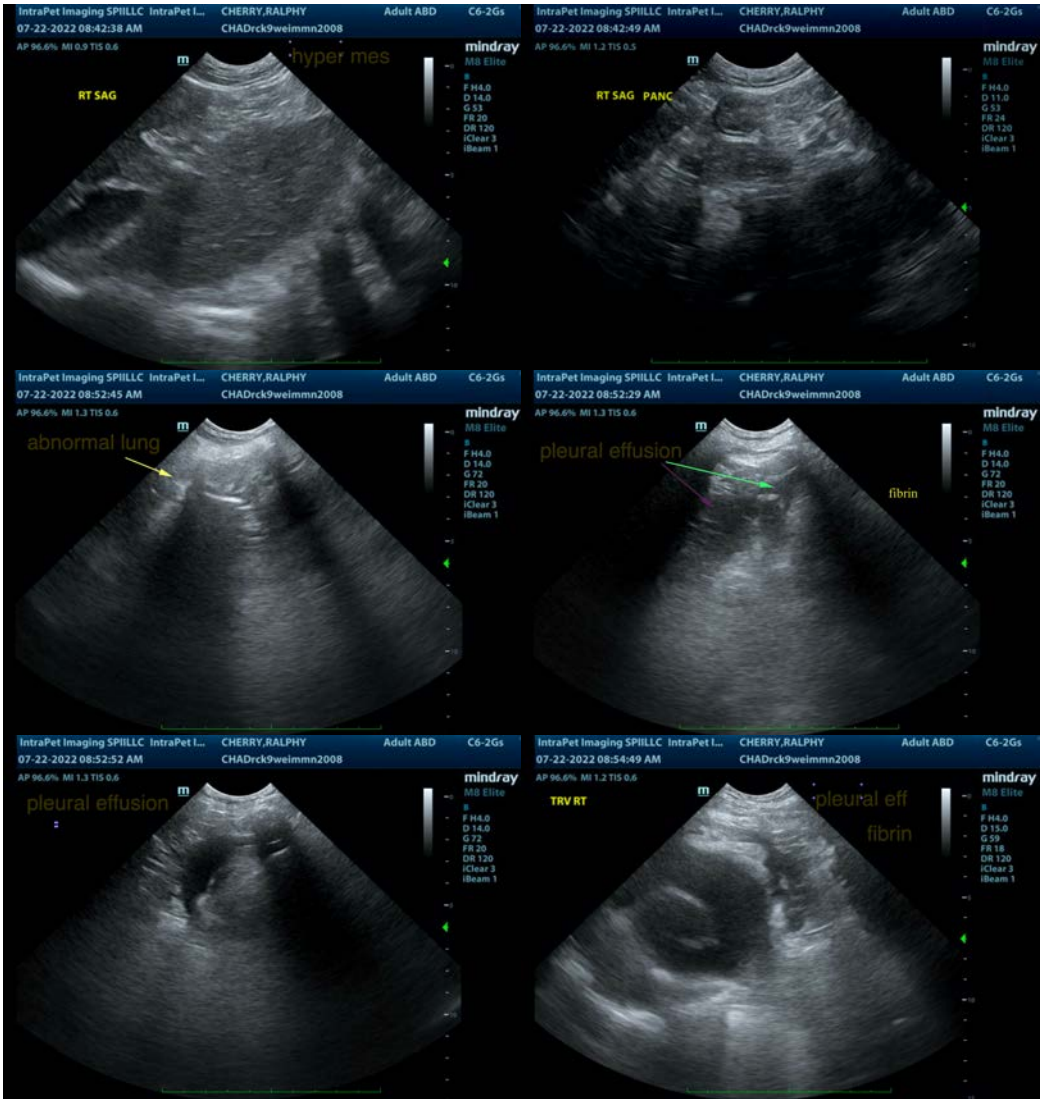
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Arterial blood pressure, in the presence of the client

Thoracic CT scan vs. echocardiogram in order to obtain heart-based views that may allow for visualization of the mass.

+/- Evaluation of urine for metanephrines to exclude pheochromocytoma depending on the blood pressure results. Note, this test is not a priority compared to the thoracic mass; further diagnostics will depend on Ralphy's arterial blood pressure results.


IntraPet Imaging SPIILLC IntraPet I... CHERRY,RALPHY Adult ABD C6-2Gs
07-22-2022 08:38:13 AM CHADrck9weimmn2008
LT
1 Dist 3.12 cm
2 Dist 0.99 cm
3 Dist 1.02 cm
mindray
IntraPet Imaging SPIILLC IntraPet I... CHERRY,RALPHY Adult ABD C6-2Gs
07-22-2022 08:47:17 AM CHADrck9weimmn2008
SAGLIVER
1 Dist 1.23 cm
2 Dist 1.02 cm
3 Dist 1.21 cm
4 Dist 1.07 cm
mindray
IntraPet Imaging SPIILLC IntraPet I... CHERRY,RALPHY Adult ABD C6-2Gs
07-22-2022 08:34:57 AM CHADrck9weimmn2008
LIVER
GB w/sludge
"B lines"
Rocket signs
mindray
IntraPet Imaging SPIILLC IntraPet I... CHERRY,RALPHY Adult ABD C6-2Gs
07-22-2022 08:35:06 AM CHADrck9weimmn2008
LIVER
hyper nodule
mindray
IntraPet Imaging SPIILLC IntraPet I... CHERRY,RALPHY Adult ABD C6-2Gs
07-22-2022 08:35:28 AM CHADrck9weimmn2008
LIVERSAG
GB w/ sludge
mindray
IntraPet Imaging SPIILLC IntraPet I... CHERRY,RALPHY Adult ABD C6-2Gs
07-22-2022 08:37:59 AM CHADrck9weimmn2008
LT
mindray
IntraPet Imaging SPIILLC IntraPet I... CHERRY,RALPHY Adult ABD C6-2Gs
07-22-2022 08:41:34 AM CHADrck9weimmn2008
RT
mindray
IntraPet Imaging SPIILLC IntraPet I... CHERRY,RALPHY Adult ABD C6-2Gs
07-22-2022 08:41:47 AM CHADrck9weimmn2008
RT
mindray



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.

Lisa Carioto, DVM, DVSc, Diplomate AVIM

Lisa.Carioto@sonopath.com