IMAGING PERFORMED BY

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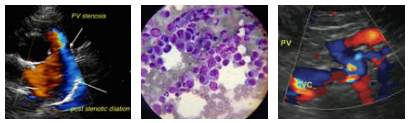

SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™
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DATE
4/26/22

PATIENT
Maggie Eldredge

SPECIES
Canine

BREED
Labrador

SEX
Spayed Female

AGE
11/9/09

WEIGHT
75 lbs

INTERPRETED BY
Lisa Carioto, DVM, DVSc, Diplomate ACVIM

HOSPITAL NAME
Festival VC

REFERRING VET
Dr. Cianelli

INVOICE
99511

PRESENTING CLINICAL SIGNS

Weight loss, weakness, PLN.
Current Medications: Benazepril 10mg SID- just increased to BID, Starting Doxycycline 150mg BID, Novox 100mg 1.5 SID, Gabapentin 100mg BID.
Lab Results: See attached.
Date of Previous IntraPet Ultrasound: No previous.
Sedation: Not required to complete full diagnostic ultrasound.
Stat Report: Approved.
Imaging Performed By: Stephanie Pearce RDCS, RVT.

Urinary System

The urinary bladder is adequately 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 7.81 cm. The capsule is smooth. The cortex is mildly hyperechoic, i.e., it is isoechoic to the spleen. Its overall architecture is well preserved. A very mild loss of the normal definition of the cortico-medullary junction is present, which is not uncommon for a dog of Maggie's age. There is no evidence of nephroliths or pyelectasia. An accumulation of intrapelvic fat is noted. Blood flow appears increased, i.e. suggestive of hypertension. The surrounding mesentery is not hyperechoic.
The **right** kidney measures 7.23 cm. The capsule is smooth. The cortex is mildly hyperechoic, i.e.,, it is isoechoic to the liver, which is also hyperechoic compared to normal. A mild loss of the normal definition of the cortico-medullary junction is present. Ill-defined, hyperechoic regions are observed along the medulla, traversing parallel to the corticomedullary junction, as well as within the cortex. The latter accentuate the definition of the cortico-medullary junction in certain areas. Mineralizations of the diverticulae and pelvis are present, without evidence of nephroliths or pyelectasia. An accumulation of intrapelvic fat is noted. The surrounding mesentery is not hyperechoic.

Adrenal Glands

The **left** adrenal gland measures 0.99 cm at the cranial pole, 0.89 cm at the caudal pole and 2.61 cm in length. Adrenomegaly, however, no abnormalities are noted with the gland's overall architecture, echogenicity or echotexture. A hyperechoic region is present at the caudal pole, which is suggestive of fat, fibrosis, mineralization or ischemia. The phrenico-abdominal vein does not show any abnormalities, however, an echogenic structure, most consistent with a thrombus, is noted within the caudal vena cava. It extends approximately 2 cm.
An echogenic structure, extending approximately 6.2 cm, is present within the aorta. However, when followed, it appears as though there is both a dissecting aorta, as well as a thrombus.
When the aorta is followed through the abdomen, both thrombi and intermittent areas of what appear to be dissecting aorta are noted extending form the renal arteries to the trifurcation.
The **right** adrenal gland measures 0.89 cm at the cranial pole, 0.78 cm at the caudal pole and 2.82 cm in length. Adrenomegaly, however, no abnormalities are noted with the gland's overall architecture, echogenicity or echotexture. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

Spleen

Mild to moderate splenomegaly. The spleen is folded on itself. It is heterogeneous with a diffuse mottled or "moth eaten" echotexture. The capsule is relatively smooth, although it has scalloped edges in certain areas. No obvious abnormalities are observed with its vasculature, i.e. congestion and thrombi are not identified.

Liver

There are no obvious signs of hepatomegaly. The liver's borders are smooth, but mildly rounded. It has a mildly coarse and granular echotexture and is mildly hyperechoic. Mild perivascular cuffing is observed. The walls of the portal veins are mildly hyperechoic. No other abnormalities are observed with the hepatic vessels visualized.
The gallbladder wall is within normal limits in thickness and echogenicity. A small amount of echogenic material is present within the GB. There is no evidence of edema surrounding it. 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 is 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 small intestinal wall thickness, including the duodenum, is within normal limits and the definition of the wall layers is preserved. Abnormally dilated loops of bowel are not observed.
The colonic wall is not thickened and mural detail is considered normal. Semi-formed stools are present within the descending colon.
There are no obvious signs of a mass, foreign body, infiltrative disease or an obstruction in the gastrointestinal tract.

Pancreas

The pancreas has a mildly coarse echotexture, which is attributed to age related changes. Signs of active pancreatitis or neoplasia are not appreciated.

Other
Subcutaneous mass
Relatively homogeneous, measuring 8.72 cm in diameter x 12.32 cm in length. A fine needle aspirate is required to confirm a diagnosis, however, differential diagnoses include a lipoma or liposarcoma.

Lymph nodes
No abnormalities are observed

Abdominal effusion is not visualized.

Heart
Pericardial and pleural effusion are not identified. No obvious abnormalities noted with contractility, cardiac chambers or valves.

ULTRASONOGRAPHIC FINDINGS

- Bilateral adrenomegaly is suggestive of adrenal hyperplasia secondary to pituitary dependent hyperadrenocorticism (HAC). Proteinuria, thromboemboli and hypertension are also consistent with a diagnosis of HAC. Stress (chronic illness) may also cause bilateral adrenal hyperplasia. The hyperechoic region at the caudal pole of the left gland is suggestive of fat, fibrosis, mineralization or ischemia.

- A dissecting aorta, as well as thromboemboli in both the aorta and caudal vena cava are suspected. The structures within the aorta and caudal vena cava are unlikely to be metastases.

- The renal changes are suggestive of glomerulonephritis or interstitial nephritis, which may be associated with HAC. A component of some of the changes may be age-related. The hyperechoic regions within the cortex and medulla may be due to previous episodes of ischemia and fibrosis. Blood flow is suggestive of systemic hypertension.

- The diffuse hyperechogenicity and the coarse, granular echotexture of the liver are suggestive of vacuolar and reactive hepatopathies, respectively. Cholestasis cannot be excluded. There are no obvious signs of neoplasia.

- The presence of sludge in the gallbladder is most likely clinically insignificant, however, some dogs may show clinical signs of gastroesophageal reflux disease (GERD), therefore, obtaining a history regarding signs of GERD from the client is suggested.

- Although the appearance of the spleen may be suggestive of neoplasia, extramedullary hematopoiesis must be considered a cause of the sonographic findings due to Maggie's anemia. Other possible differential diagnoses include hypersplenism and reactive hyperplasia.

- The appearance of the pancreas is suggestive of age related changes.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Fine needle aspirates of the spleen and subcutaneous mass are required to obtain a definitive diagnosis, however, extramedullary hematopoiesis cannot be excluded based on the appearance of the spleen, particularly in the face of Maggie's microcytic, (almost) hypochromic, non-regenerative anemia.

Evaluation of Maggie's blood pressure, ideally in the presence of the client is recommended to minimize the effects of stress.

A fundic exam is also recommended.

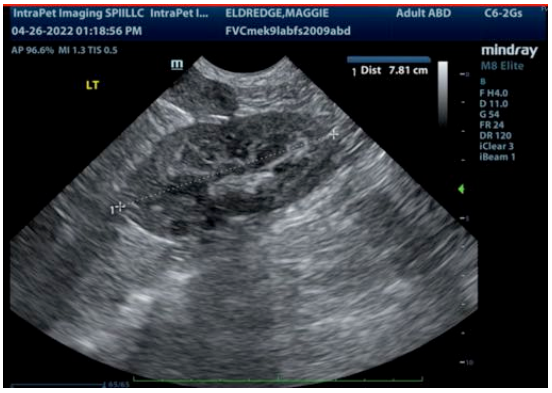
Amlodipine is recommended if hypertension is diagnosed.

Telmisartan is strongly recommended instead of benazepril, for the treatment of proteinuria, as it tends to be more effective. It is also effective in the treatment of hypertension.

Doxycycline may be discontinued as an infectious cause for Maggie's clinical signs is not apparent, however, a SNAP 4Dx should be performed.

Non-steroidal anti-inflammatories are not recommended in the face of proteinuria. If Maggie is painful, gabapentin, amantadine, methadone, are suggested. The ALP enzyme activity is only mildly increased, therefore, acetaminophen may be administered at 10 mg/kg PO BID to help decrease pain associated with osteoarthritis.

Clopidogrel and rivaroxaban are strongly recommended to decrease the development of additional thromboemboli. Jugular venipunctures and cystocentesis samples should be avoided if these drugs are administered.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ELDREDGE,MAGGIE
Adult ABD
C6-2Gs
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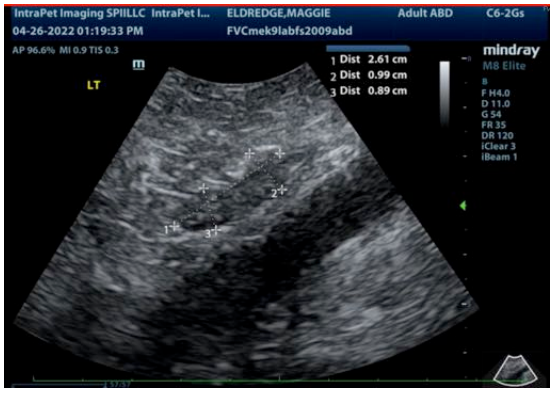
LT
1 Dist 7.81 cm
mindray
M8 Elite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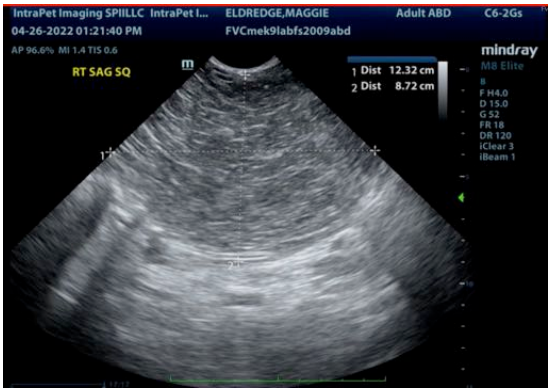
2 Dist 0.99 cm
3 Dist 0.89 cm
mindray
M8 Elite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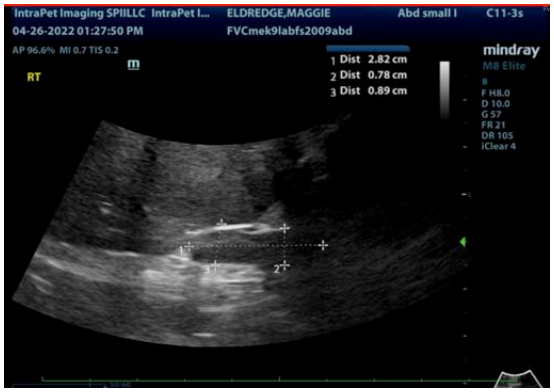
RT SAG SQ
1 Dist 12.32 cm
2 Dist 8.72 cm
mindray
M8 Elite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Abd small I
C11-3s
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RT
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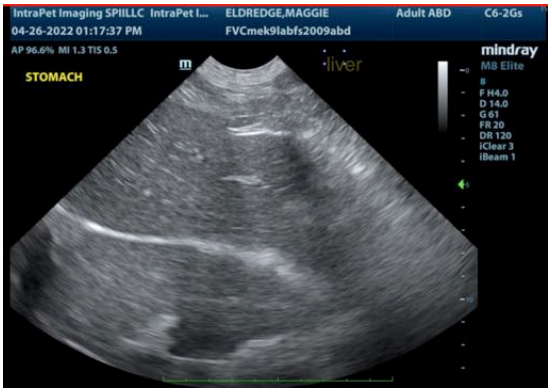
2 Dist 0.78 cm
3 Dist 0.89 cm
mindray
M8 Elite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STOMACH
liver
mindray
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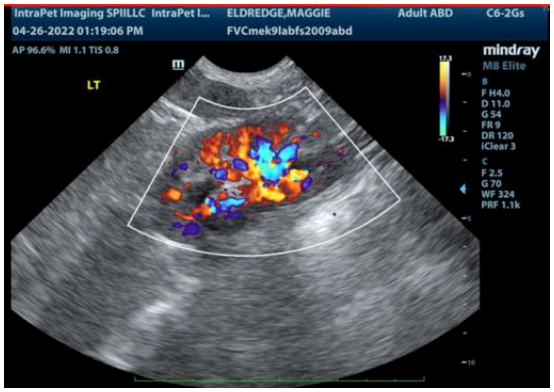
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LT
mindray
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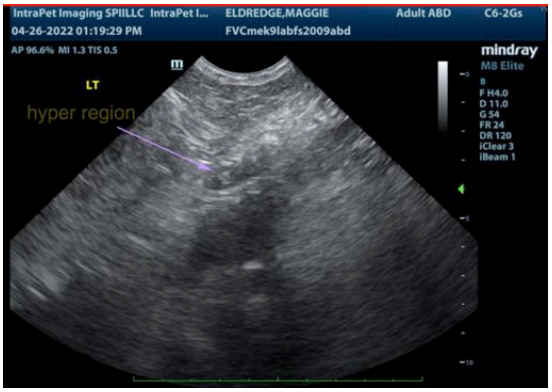
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mindray
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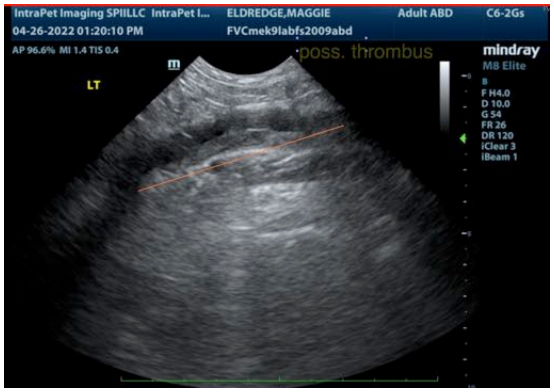
LT
hyper region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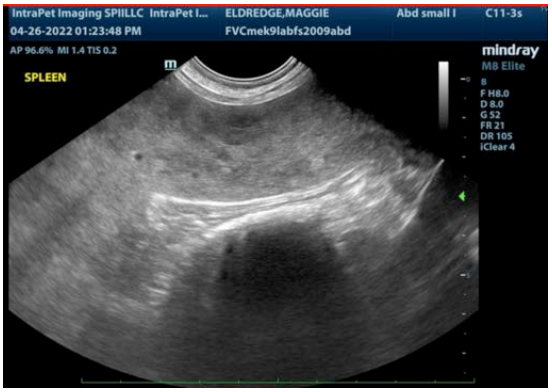
mindray
M8 Elite
LT
poss. thrombus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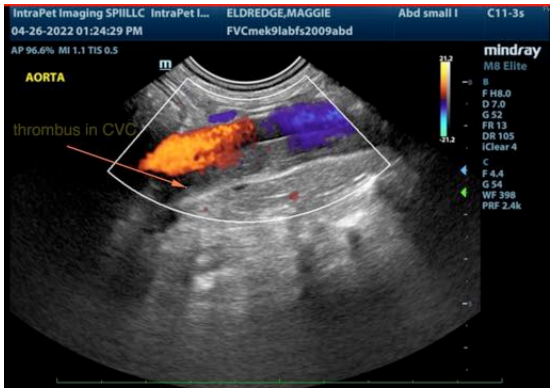
SPLEEN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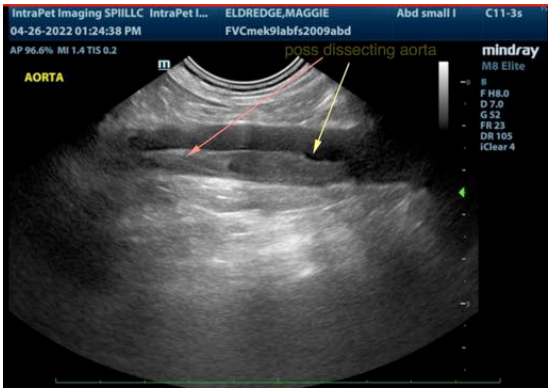
mindray
M8 Elite
AORTA
thrombus in CVC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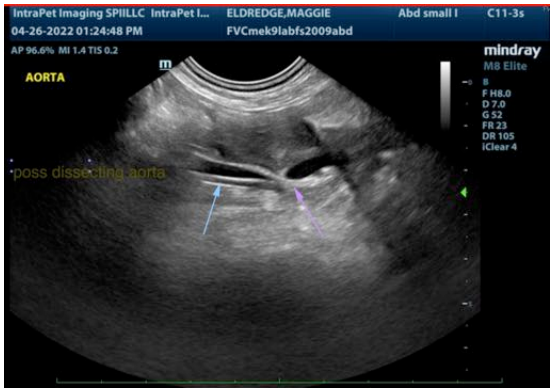
mindray
M8 Elite
AORTA
poss dissecting aorta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mindray
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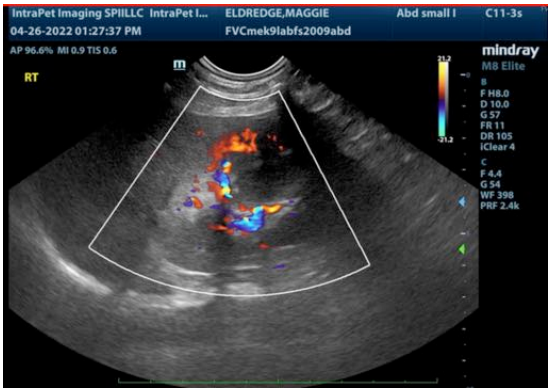
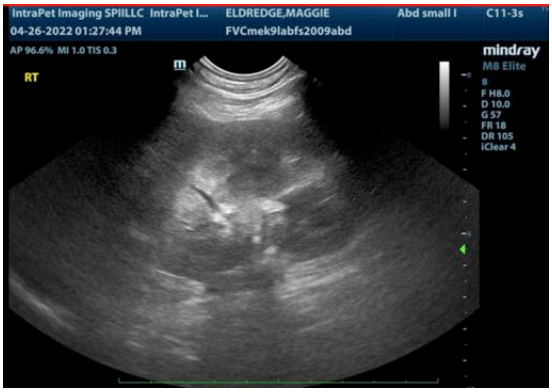
AORTA
poss dissecting aorta





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.

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Lisa.Carioto@sonopath.com