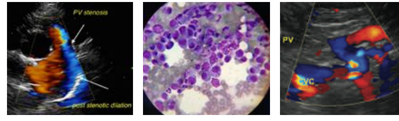
IMAGING PERFORMED BY

IntraPet.com



SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™
1-800-838-4268 info@sonopath.com SonoPath.com

DATE
5/2/22

PATIENT
Madrid Lennox

SPECIES
Canine

BREED
Boxer

SEX
Intact male

AGE
5/12/14

WEIGHT
63.5 lbs

INTERPRETED BY
Lisa Carioto, DVM, DVSc, Diplomate ACVIM

HOSPITAL NAME
Claws N Paws AH

REFERRING VET
Dr. Singh

INVOICE
30080

PRESENTING CLINICAL SIGNS

Previous hx of seizures, increasing lethargy, decreased appetite, difficulty with mobility and now limping on hind legs. Previous bout of vomiting within past 2-3 weeks; tense on abdominal palpation.
Labs: declined at PE, pending today.
Current Medications: None.
Date of Previous IntraPet Ultrasound: No previous.
Sedation: Not required to complete full diagnostic ultrasound.
Stat Report: Not requested.
Imaging Performed By: Rachel Brilhart, RDMS

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

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.
The **prostate** is homogenous and within normal limits for an intact male.

Testicles

An irregularly shaped hypoechoic nodule is observed within the **left** testicle. It measures 1.1 cm in diameter x 0.95 cm in length. A punctate hyperechoic focal lesion, most consistent with mineralization is observed; this is not considered clinically significant.

No abnormalities are observed with the echogenicity or echotexture of the **right** testicle.

Kidneys

The **left** kidney measures 7.52 cm. The capsule is smooth. A mild loss of the normal definition of the cortico-medullary junction is present. Mineralizations of the diverticulae are present, without evidence of nephroliths or pyelectasia. A normal accumulation of intrapelvic fat is noted. Blood flow is considered within normal limits. The surrounding mesentery is not hyperechoic.

The **right** kidney measures 6.71 cm. The capsule is smooth. A mild loss of the normal definition of the cortico-medullary junction is present. Mineralizations of the diverticulae are present, without evidence of nephroliths or pyelectasia. A normal accumulation of intrapelvic fat is noted. Blood flow is considered within normal limits. The surrounding mesentery is not hyperechoic.

Aortic bifurcation/trifurcation

No abnormalities observed.

Adrenal Glands

The **left** adrenal gland measures 0.83 cm at the cranial pole, 0.85 cm at the caudal pole and 2.65 cm in length. 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 0.97 cm at the cranial pole, 0.67 cm at the caudal pole and 1.39 cm in length. 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

The spleen is within normal limits in size, architecture, echotexture, and echogenicity. The capsule is smooth. An ill-defined hypoechoic nodule is visualized at its head. It measures 1.6 cm in diameter x 1.7 cm in length. It measures 2.41 cm in length in another view. It does not appear to disrupt the integrity of the capsule. It is

avascular, when evaluated using colour Doppler. No abnormalities are observed with its vasculature, i.e. congestion and thrombi are not identified.

Liver

Hepatomegaly is suspected (greater than 10 cm in depth and deep chested), however, this is better characterized at the time of the ultrasound or with radiographs. The liver's borders are smooth, but rounded. A diffuse, mildly coarse or granular echotexture is observed. No focal nodules or cystic lesions are observed. The walls of the portal veins are mildly hyperechoic and more prominent than usual, however, the larger hepatic vessels do not show any abnormalities or congestion.

The gallbladder wall is within normal limits in thickness and echogenicity. A small amount of echogenic material within the GB. 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

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 duodenum is within normal limits and the definition of the wall layers is preserved. The majority of the small intestines are within the normal reference range in size, as well as definition of the architecture of the wall layers. See below for a possible intestinal mass.

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

Pancreas

No overt abnormalities are observed. There is no evidence of hyperechogenicity of the surrounding mesentery, i.e., signs of active pancreatitis are not present.

Other

***Lymph nodes** (LN)*

Hepatic LN 0.75 cm, which is mildly hypoechoic.

A severely hypoechoic to anechoic mass effect is observed in the caudal abdomen. It contains punctate, hyperechoic foci, some of which "scintillate" are scattered throughout the parenchyma. These foci are suggestive of mineralization. It measures 3.21 cm in diameter x 6.00 cm in length. The structure measures 3.3 cm in diameter in another view. The mesentery surrounding the structure is severely hyperechoic. In the images viewed at the beginning of the study, the mass does not appear to be originating from a specific organ, however, in many of the images evaluated at the end of the study, the mass appears to be originating from the lumen of a specific loop of jejunum, i.e. one can follow the ingesta in the lumen of the jejunum into the mass effect. Therefore, an intraluminal mass is suspected. The images are not typical of a diverticulum or abscess. It appears to be encapsulated. The mass itself is not vascularized when evaluated with colour Doppler, however, the jejunum is. If the structure is not originating from a specific organ, other differential diagnoses include a mesenteric abscess or an abscessed lymph node, as well as a combination of a cystic and abscessed lymph node.

Abdominal effusion is not visualized.

Heart

A brief video clip of the heart was submitted. Pericardial and pleural effusion are not identified. A mass is not observed on evaluation of the right atrium, auricle or ventricle. However, a mass may be overlooked in the absence of pericardial effusion. Contractility appears within normal limits. The tricuspid valve is smooth and regular. The portion of the left side of the heart also appears within normal limits.

ULTRASONOGRAPHIC FINDINGS

- An intraluminal mass effect is observed, which appears to be arising from a loop of jejunum. The images are not typical of a diverticulum or abscess, however, these differentials cannot be excluded. A leiomyoma or leiomyosarcoma are possible differential diagnoses if it is a mass. The former is not malignant and may be curative with surgery (wide margins are required). If the structure is not originating from a specific organ, other differential diagnoses include a mesenteric abscess or an abscessed lymph node, as well as a combination of a cystic and abscessed lymph node.

- The splenic nodule may be associated with nodular or lymphoid hyperplasia or extramedullary hematopoiesis. Other differential diagnoses include a hematoma, as well as early development of hemangiosarcoma.

- Bilateral adrenomegaly may occur be due to adrenal hyperplasia secondary to chronic illness, which is a form of stress. Pituitary dependent hyperadrenocorticism is also possible, but considered less likely given the absence of clinical signs, or clinical signs have not yet developed. Further diagnostics are not necessary if a patient is not demonstrating clinical signs of HAC. However, an evaluation an arterial blood pressure and a urine protein: creatinine ratio (to obtain baseline results) is recommended.

- The hepatic changes are suggestive of a reactive hepatopathy. There are no obvious signs of neoplasia.

- The small amount 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. Treatment with an anti-acid, proton pump inhibitor or ursodeoxycholic acid may be required depending on the patient's history.

- Mild to moderate renal changes are present, which are suggestive of age related degeneration.

- The hypoechoic nodule within the left testicle may be associated with nodular hyperplasia or the development of a Leydig cell tumour. However, there are no obvious signs of neoplasia at this time.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

There is a risk to performing fine needle aspirates of the mass effect, particularly if the structure contains bacteria from the gastrointestinal tract. However, if an exploratory laparotomy is not an option as a diagnostic and therapeutic tool, fine needle aspirates may be performed judiciously by attaching a small gauge needle to an extension set and three-way stopcock with the intention to "drain the mass" as much as possible. Lennox should then be placed in ventral recumbency for approximately 20 minutes to form a seal of the mass to prevent further leakage.

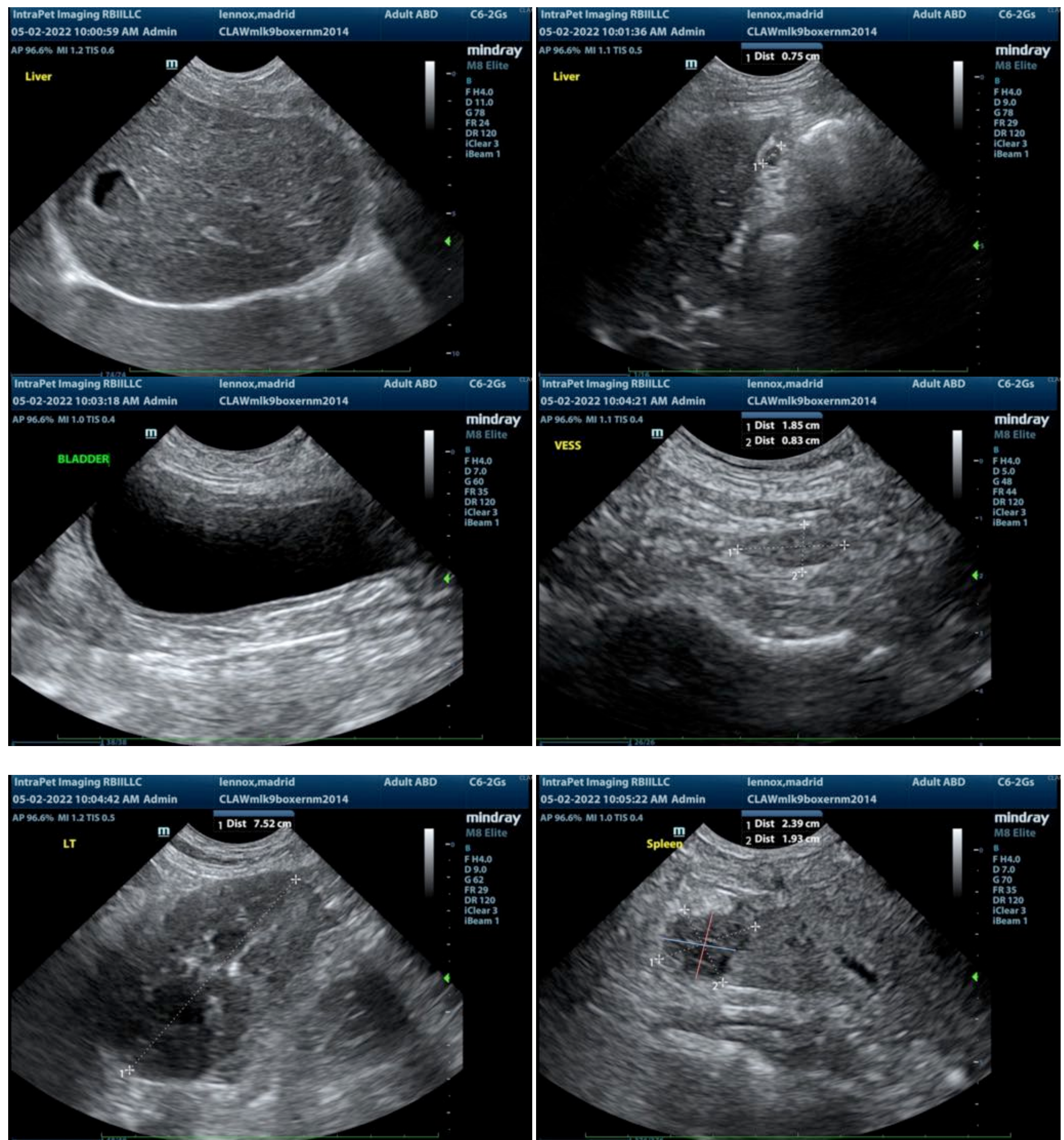
A fine needle aspirate of the splenic nodule and liver may be performed at the same time.

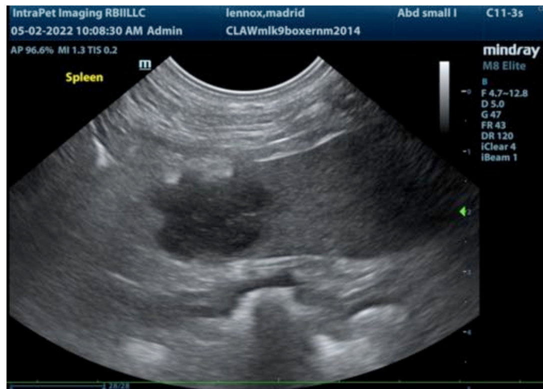
Note, the blood work results may yield additional information that will help provide further

recommendations.

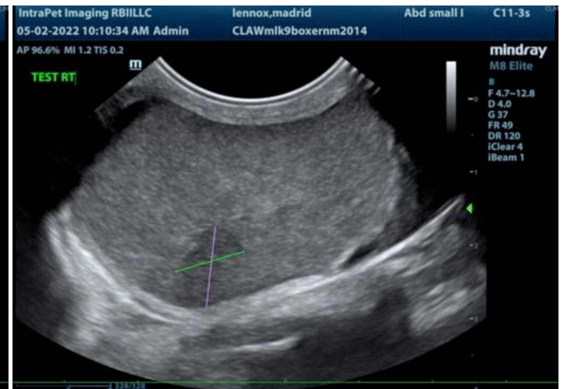
Thoracic radiographs (three views) are suggested to exclude the possibility of metastases.

Obtaining a history regarding signs of GERD from the client is suggested. Treatment with an anti-acid, proton pump inhibitor or ursodeoxycholic acid may be required depending on the patient's history.
A urinalysis (+/- urine culture and sensitivity) is/are suggested. If an infection is excluded, a urine protein: creatinine ratio is suggested.
An arterial blood pressure is recommended to rule out hypertension, ideally in the presence of the client to minimize the effects of stress.

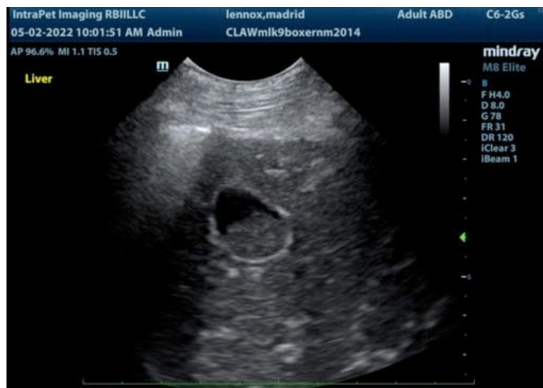




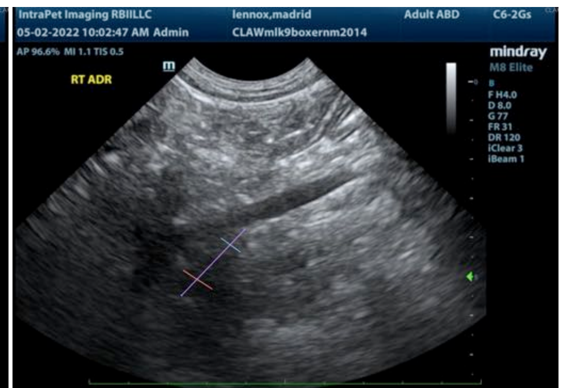
IntraPet Imaging RBIILLC
lennox,madrid
Abd small I
C11-3s
05-02-2022 10:08:30 AM Admin
CLAWmlk9boxernm2014
AP 96.6% MI 1.3 TIS 0.2
Spleen
mindray
M8 Elite
B
F 4.7~12.8
D 5.0
G 47
FR 43
DR 120
iClear 4
iBeam 1



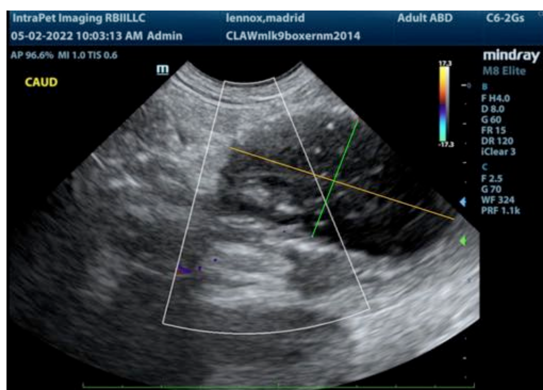
IntraPet Imaging RBIILLC
lennox,madrid
Abd small I
C11-3s
05-02-2022 10:10:34 AM Admin
CLAWmlk9boxernm2014
AP 96.6% MI 1.2 TIS 0.2
TEST RT
mindray
M8 Elite
B
F 4.7~12.8
D 4.0
G 37
FR 49
DR 120
iClear 4
iBeam 1



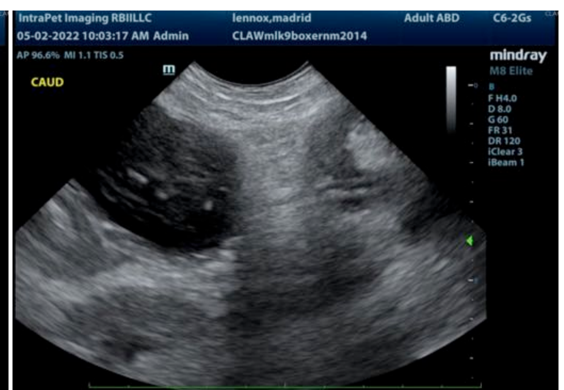
IntraPet Imaging RBIILLC
lennox,madrid
Adult ABD
C6-2Gs
05-02-2022 10:01:51 AM Admin
CLAWmlk9boxernm2014
AP 96.6% MI 1.1 TIS 0.5
Liver
mindray
M8 Elite
B
F H4.0
D 8.0
G 78
FR 31
DR 120
iClear 3
iBeam 1



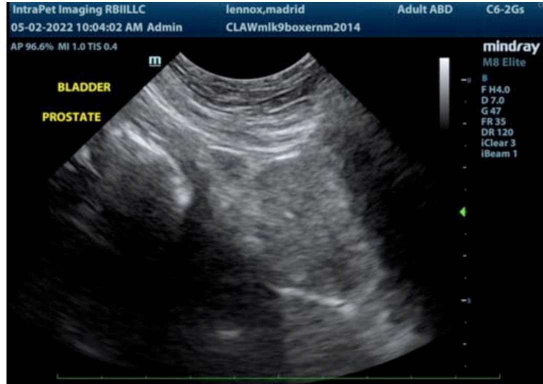
IntraPet Imaging RBIILLC
lennox,madrid
Adult ABD
C6-2Gs
05-02-2022 10:02:47 AM Admin
CLAWmlk9boxernm2014
AP 96.6% MI 1.1 TIS 0.5
RT ADR
mindray
M8 Elite
B
F H4.0
D 8.0
G 77
FR 31
DR 120
iClear 3
iBeam 1

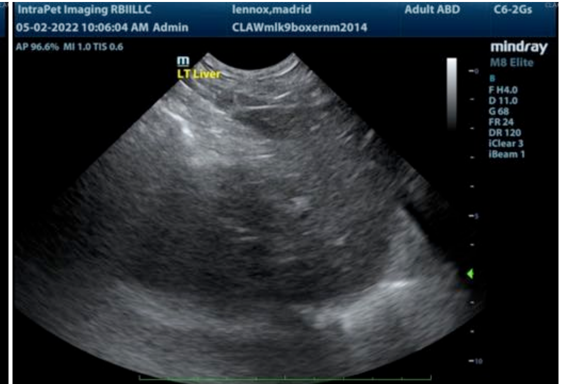


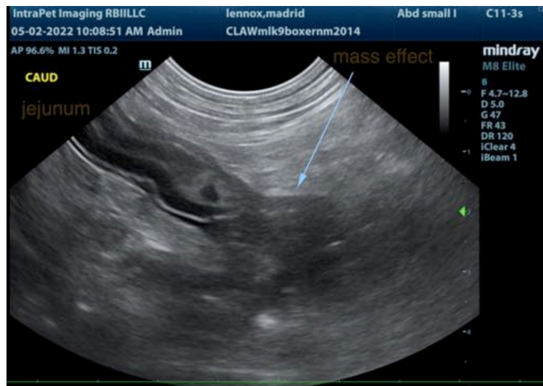
IntraPet Imaging RBIILLC
lennox,madrid
Adult ABD
C6-2Gs
05-02-2022 10:03:13 AM Admin
CLAWmlk9boxernm2014
AP 96.6% MI 1.0 TIS 0.6
CAUD
mindray
M8 Elite
B
F H4.0
D 8.0
G 60
FR 15
DR 120
iClear 3
C
F 2.5
G 70
WF 324
PRF 1.1k

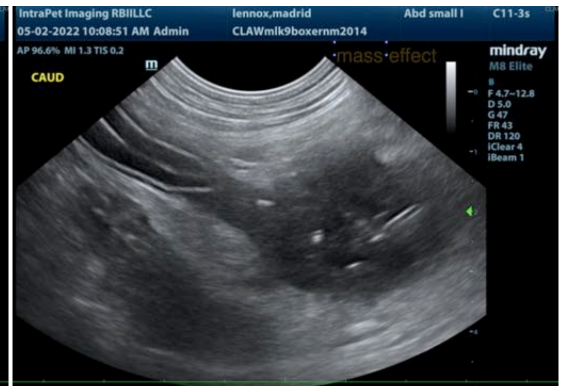


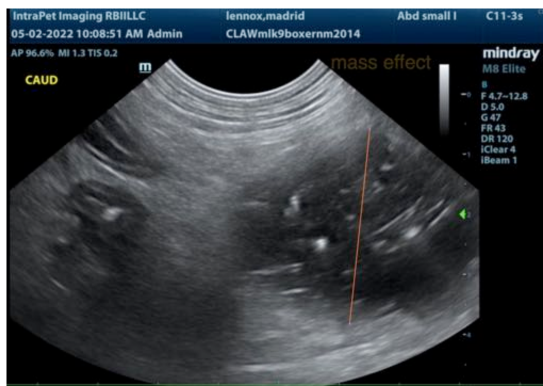
IntraPet Imaging RBIILLC
lennox,madrid
Adult ABD
C6-2Gs
05-02-2022 10:03:17 AM Admin
CLAWmlk9boxernm2014
AP 96.6% MI 1.1 TIS 0.5
CAUD
mindray
M8 Elite
B
F H4.0
D 8.0
G 60
FR 31
DR 120
iClear 3
iBeam 1

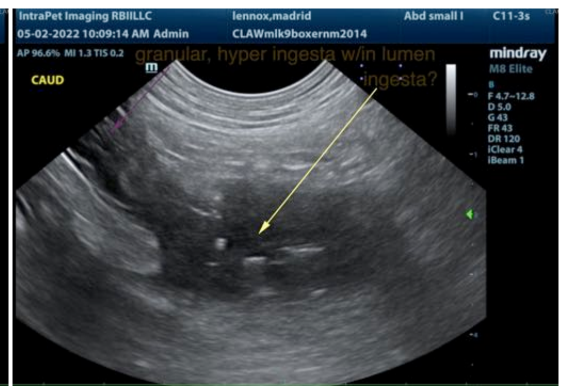

IntraPet Imaging RBIILLC
lennox,madrid
Adult ABD
C6-2Gs
05-02-2022 10:04:02 AM Admin
CLAWmlk9boxernm2014
AP 96.6% MI 1.0 TIS 0.4
mindray
M8 Elite
BLADDER
PROSTATE
B
F H4.0
D 7.0
G 47
FR 35
DR 120
iClear 3
iBeam 1

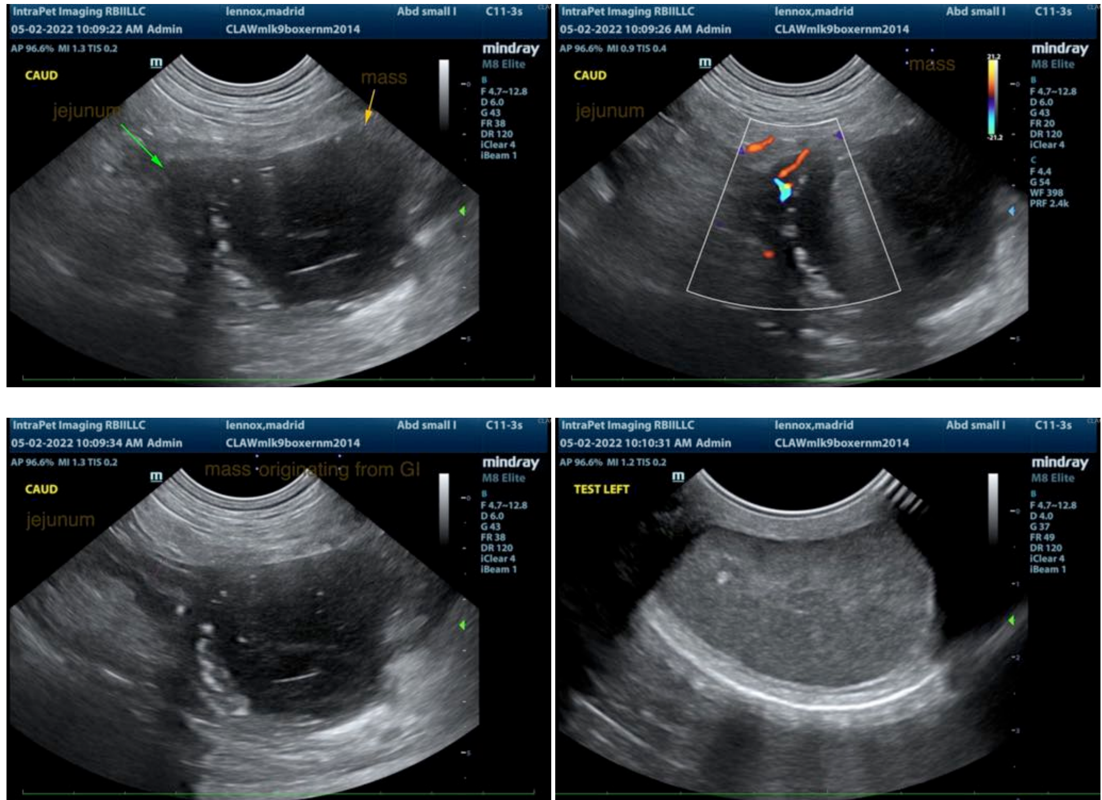

IntraPet Imaging RBIILLC
lennox,madrid
Adult ABD
C6-2Gs
05-02-2022 10:06:04 AM Admin
CLAWmlk9boxernm2014
AP 96.6% MI 1.0 TIS 0.6
mindray
M8 Elite
LT Liver
B
F H4.0
D 11.0
G 68
FR 24
DR 120
iClear 3
iBeam 1


IntraPet Imaging RBIILLC
lennox,madrid
Abd small I
C11-3s
05-02-2022 10:08:51 AM Admin
CLAWmlk9boxernm2014
AP 96.6% MI 1.3 TIS 0.2
mass effect
mindray
M8 Elite
CAUD
jejunum
B
F 4.7~12.8
D 5.0
G 47
FR 43
DR 120
iClear 4
iBeam 1


IntraPet Imaging RBIILLC
lennox,madrid
Abd small I
C11-3s
05-02-2022 10:08:51 AM Admin
CLAWmlk9boxernm2014
AP 96.6% MI 1.3 TIS 0.2
mass effect
mindray
M8 Elite
CAUD
B
F 4.7~12.8
D 5.0
G 47
FR 43
DR 120
iClear 4
iBeam 1


IntraPet Imaging RBIILLC
lennox,madrid
Abd small I
C11-3s
05-02-2022 10:08:51 AM Admin
CLAWmlk9boxernm2014
AP 96.6% MI 1.3 TIS 0.2
mass effect
mindray
M8 Elite
CAUD
B
F 4.7~12.8
D 5.0
G 47
FR 43
DR 120
iClear 4
iBeam 1


IntraPet Imaging RBIILLC
lennox,madrid
Abd small I
C11-3s
05-02-2022 10:09:14 AM Admin
CLAWmlk9boxernm2014
AP 96.6% MI 1.3 TIS 0.2
granular, hyper ingesta w/in lumen
ingesta?
mindray
M8 Elite
CAUD
B
F 4.7~12.8
D 5.0
G 43
FR 43
DR 120
iClear 4
iBeam 1



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.

Lisa Carioto, DVM, DVSc, Diplomate ACVIM
Lisa.Carioto@sonopath.com