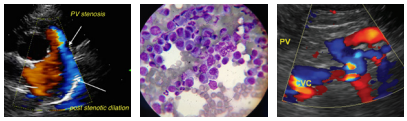
IMAGING PERFORMED BY

IntraPet.com



SonoPath

Clinical Sonography & Telecytology

EDUCATIONAL TELECONSULTATION SERVICES™

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

DATE

4/16/22

PATIENT

Bindi Carestia

SPECIES

Canine

BREED

Corgi

SEX

Spayed Female

AGE

12/21/15

WEIGHT

22.5 Pounds

INTERPRETED BY

Lisa Carioto, DVM, DVSc, Diplomate ACVIM

IMAGING PERFORMED BY

Rachel Brilhart RDMS

HOSPITAL NAME

Animal Emergency Hospital

REFERRING VET

Dr. Goessling

INVOICE

36960

PRESENTING CLINICAL SIGNS

Patient was recently in Massachusetts with owner's daughter hiking. Got back about 1 week ago and was having trouble walking and then stopped walking altogether. She was seen last Sunday by RDVM and was sent home with pain meds. Owner has been giving tramadol but never started the anti-inflammatory because they were waiting for the diarrhea to clear up. GI issues worsened to very watery diarrhea and patient went back to RDVM Wednesday and was given metronidazole and panacur. Diarrhea has progressed to dark, tarry stool and patient is very lethargic, hasn't peed in over 24 hours. In August 2020, was seen by RDVM for neck swelling and was diagnosed with lymphoma based on biopsy. Was seen by oncologist and had 9 week course of chemotherapy; has been in remission since. Was most recently seen by RDVM in February for wellness exam and check up and blood work were all normal. On PE severe dehydration, body score 5/9, mild tartar, grade 2/6 murmur, thready femoral pulses, tachycardia, abdomen tense.

Current Medications: Buprenorphine, Maropitant Citrate, Sucralfate, Pantoprazole, Buprenorphine.
Lab Results: Attached.
Radiographs: Lat and V/D abdomen- no obvious mass, speckled material in small intestine, splenomegaly, material in stomach- clot vs. mass?
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 adequately/well distended with anechoic contents. The wall is smooth and regular. No abnormalities are present with the trigone. An in-depth evaluation of the proximal urethra is not possible due to interference of gas and fecal matter in the colon. There is no evidence of cystoliths, polyps or a mass. A trivial amount of free floating sediment is present, however, obvious signs of cystitis are not noted.

The **left** kidney measures 4.86 cm. The capsule is smooth and its overall architecture, including the definition of the cortico-medullary junction, are preserved. Mild pinpoint mineralizations of the arcuate arteries, diverticulae and pelvis are present, without evidence of nephroliths or pyelectasia. The surrounding mesentery is markedly hyperechoic.

The **right** kidney measures 5.76 cm. The capsule is smooth and its overall architecture, including the definition of the cortico-medullary junction, are preserved. The cortex is mildly to moderately hyperechoic, i.e. it is isoechoic to the liver, which is hyperechoic compared to normal. Mild pinpoint mineralizations of the arcuate arteries, diverticulae and pelvis are present. Approximately two, very small nephroliths are observed, i.e., acoustic shadowing is noted, however, pyelectasia is not present. The surrounding mesentery is markedly hyperechoic.

Aortic bifurcation/trifurcation
No abnormalities observed.

Adrenal Glands

The **left** adrenal gland measures 0.52 cm at the cranial pole, 0.44 cm at the caudal pole and 1.77 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 0.38 cm at the cranial pole, 0.33 cm at the caudal pole and 1.94 cm in length. A reason for the difference in thickness in the two glands is not known. 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
Splenomegaly is noted. The capsule is smooth. The spleen is mildly hypoechoic compared to normal, i.e., it is hypoechoic to the cortex of the left kidney. Although the echotexture is relatively homogenous, a subtle, miliary echotexture is present. No abnormalities are observed with its vasculature, i.e. congestion and thrombi are not identified. The surrounding mesentery is markedly hyperechoic.

Liver
Moderate hepatomegaly is present with smooth, but mildly round borders. The liver's echotexture is homogeneous, however, it is mildly to moderately hyperechoic, i.e. it is iso to mildly hyperechoic to the falciform fat. The walls of the portal vessels are more prominent, in addition to perivascular cuffing of larger blood vessels, suggestive of myelolipomas. There are no signs of hepatic congestion. The surrounding mesentery is markedly hyperechoic.

The gallbladder wall is mildly thicker (1.9 mm) and hyperechoic compared to the normal reference range. A trivial amount of echogenic material is present within the GB. There are no signs of an obstruction based on the appearance of the biliary tree.

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, however, the surrounding mesentery is markedly hyperechoic.

A moderate to marked amount of ingesta is present within the small intestines, some of which are markedly dilated. "Ineffective" peristalsis is noted throughout the entire GI tract, i.e., a "to and fro" motion is observed, consistent with a mild to moderate ileus.

The colonic wall is not thickened and mural detail is considered normal, however, semi formed stools are present within the colon, in addition to decreased peristalsis.

An obvious mass, foreign body, or an obstruction is not visualized within the gastrointestinal tract.

Pancreas
No overt abnormalities are observed with the parenchymal echogenicity or echotexture. The surrounding mesentery is hyperechoic, however, this is not attributed to the inflammation associated with the pancreas.

Other

Lymph nodes
Lymphadenomegaly. Obliteration of the normal architecture of multiple lymph nodes (LNs) is observed in throughout the abdomen, including the cranial abdomen, mesenteric, iliac and sublumbar lymph nodes, as well as the hepatic lymph node.

The LNs are severely hypoechoic and the mesentery surrounding the affected LNs is markedly hyperechoic.
Cranial abdomen:

a. 1.61 cm in diameter x 2.12 cm in length
b. 1.21 cm in diameter x 1.92 cm in length

Sublumbar: 1.21 cm in diameter x 2.74 cm in length (moderately hypoechoic)
Mesenteric: 1.14 cm in diameter x 4.55 cm in length (moderately hypoechoic)

Abdominal effusion is not visualized.

Heart

There is no evidence of pericardial or pleural effusion, or pulmonary edema. Chamber size and contractility are considered within normal limits. An obvious mass is not observed, however, a mass may be overlooked in the absence of pericardial effusion.

ULTRASONOGRAPHIC FINDINGS

- Intra-abdominal lymphadenomegaly
- Splenomegaly due to antigenic stimulation and secondary inflammation (splenitis) due to an immune mediated induced or infectious cause, and extramedullary hematopoiesis are possible differential diagnoses. However, neoplasia, such as lymphoma, mast cell, and histiocytic sarcoma cannot be excluded without performing a fine needle aspirate. The latter is not suggested due to the thrombocytopenia and petechiae.
- A reason for the difference in thickness in the two glands is not known. No abnormalities are noted with the gland's overall architecture, echogenicity or echotexture. The right gland is thinner than the left.
- Hepatomegaly
- Severe, non-regenerative anemia
- Severe thrombocytopenia with petechiae
- History of travel
- History of lymphoma in 2021, responsive to 9 weeks of chemotherapy

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

A blood smear and an in-saline agglutination test are recommended to exclude spherocytes and agglutination, i.e., determine if immune-mediated hemolytic anemia (IMHA). Evaluation of the CBC for megakaryocytes is also suggested.

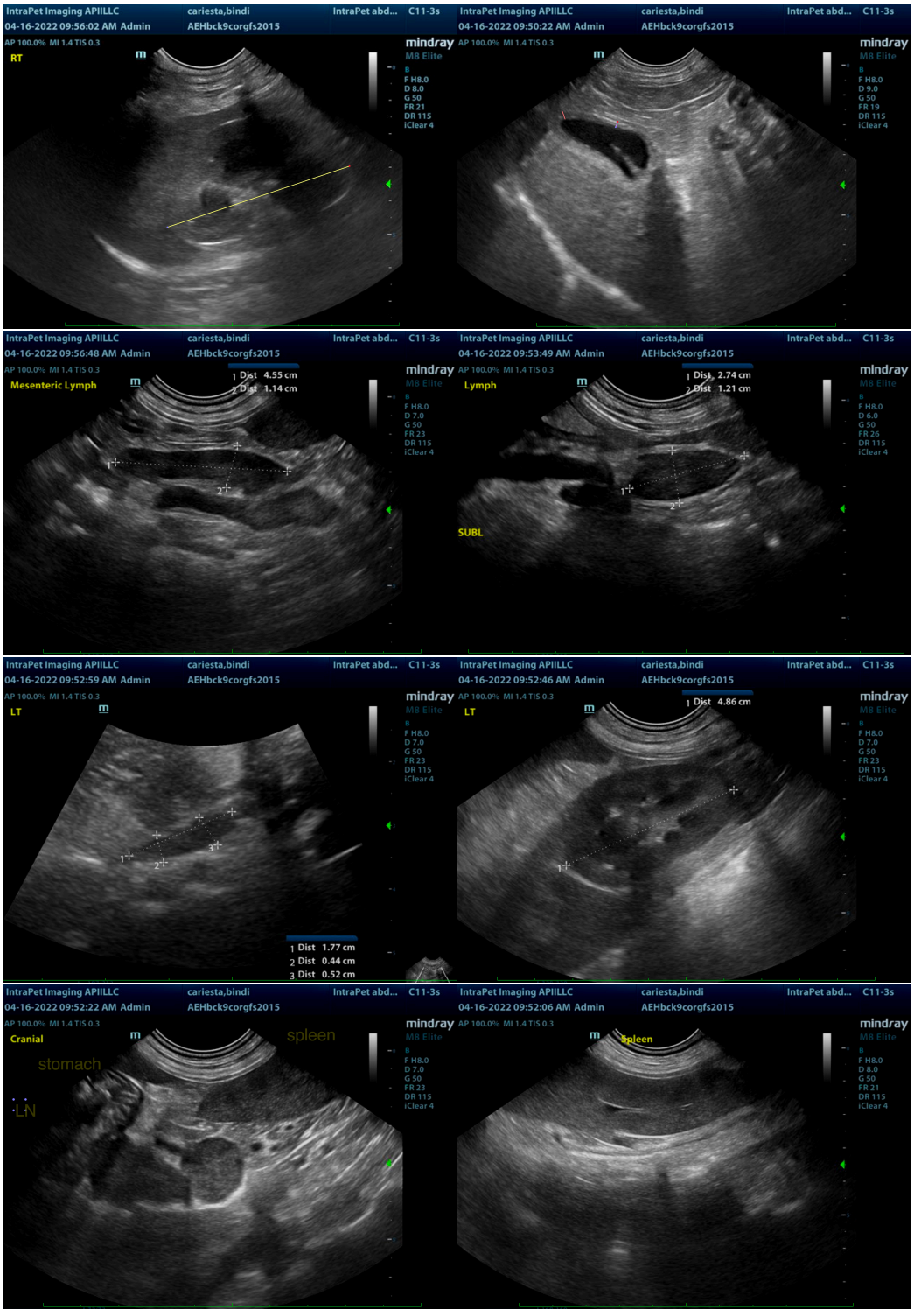
If IMHA and thrombocytopenia are present, Evan's syndrome is confirmed, both of which may occur due to lymphoma. However, an infectious disease cannot be excluded, particularly due to Bindi's recent travel history. Therefore, a SNAP 4Dx and testing for *Bartonella* are suggested.

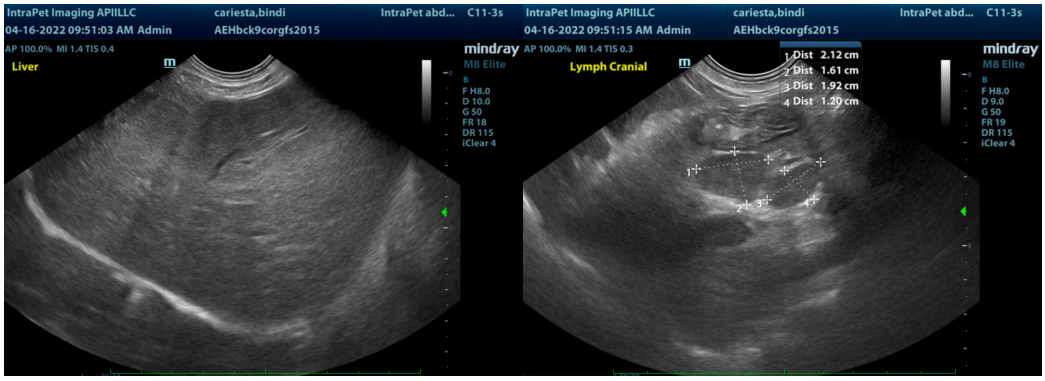
A urinalysis and urine culture and sensitivity are recommended.

Bindi's clinical signs and CBC results are suggestive of shock, margination of neutrophils and sepsis. Intravenous broad spectrum antibiotics are recommended.

A packed red blood cell is recommended to treat her anemia. A fresh frozen plasma transfusion will help replace the proteins lost via her gastrointestinal tract and may help decrease the risk of disseminated intravascular coagulation.

Fine needle aspirates of the lymph nodes, spleen and liver are required to achieve a diagnosis, but are not recommended due to the thrombocytopenia and petechiae.


IntraPet Imaging APIILLC
cariesta,bindi
IntraPet abd...
C11-3s
04-16-2022 09:56:02 AM Admin
AEHbck9corgfs2015
AP 100.0% MI 1.4 TIS 0.3
RT
mindray
M8 Elite
F H8.0
D 8.0
G 50
FR 21
DR 115
iClear 4
IntraPet Imaging APIILLC
cariesta,bindi
IntraPet abd...
C11-3s
04-16-2022 09:50:22 AM Admin
AEHbck9corgfs2015
AP 100.0% MI 1.4 TIS 0.3
mindray
M8 Elite
F H8.0
D 9.0
G 50
FR 19
DR 115
iClear 4
IntraPet Imaging APIILLC
cariesta,bindi
IntraPet abd...
C11-3s
04-16-2022 09:56:48 AM Admin
AEHbck9corgfs2015
AP 100.0% MI 1.4 TIS 0.3
Mesenteric Lymph
1 Dist 4.55 cm
2 Dist 1.14 cm
mindray
M8 Elite
F H8.0
D 7.0
G 50
FR 23
DR 115
iClear 4
IntraPet Imaging APIILLC
cariesta,bindi
IntraPet abd...
C11-3s
04-16-2022 09:53:49 AM Admin
AEHbck9corgfs2015
AP 100.0% MI 1.4 TIS 0.3
Lymph
1 Dist 2.74 cm
2 Dist 1.21 cm
SUBL
mindray
M8 Elite
F H8.0
D 6.0
G 50
FR 26
DR 115
iClear 4
IntraPet Imaging APIILLC
cariesta,bindi
IntraPet abd...
C11-3s
04-16-2022 09:52:59 AM Admin
AEHbck9corgfs2015
AP 100.0% MI 1.4 TIS 0.3
LT
1 Dist 1.77 cm
2 Dist 0.44 cm
3 Dist 0.52 cm
mindray
M8 Elite
F H8.0
D 7.0
G 50
FR 23
DR 115
iClear 4
IntraPet Imaging APIILLC
cariesta,bindi
IntraPet abd...
C11-3s
04-16-2022 09:52:46 AM Admin
AEHbck9corgfs2015
AP 100.0% MI 1.4 TIS 0.3
LT
1 Dist 4.86 cm
mindray
M8 Elite
F H8.0
D 7.0
G 50
FR 23
DR 115
iClear 4
IntraPet Imaging APIILLC
cariesta,bindi
IntraPet abd...
C11-3s
04-16-2022 09:52:22 AM Admin
AEHbck9corgfs2015
AP 100.0% MI 1.4 TIS 0.3
Cranial
stomach
spleen
LN
mindray
M8 Elite
F H8.0
D 7.0
G 50
FR 23
DR 115
iClear 4
IntraPet Imaging APIILLC
cariesta,bindi
IntraPet abd...
C11-3s
04-16-2022 09:52:06 AM Admin
AEHbck9corgfs2015
AP 100.0% MI 1.4 TIS 0.3
Spleen
mindray
M8 Elite
F H8.0
D 8.0
G 50
FR 21
DR 115
iClear 4



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