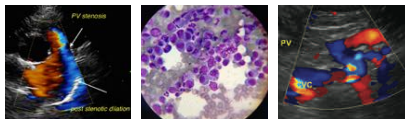
IMAGING PERFORMED BY

IntraPet.com



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

DATE
4/18/22

PATIENT
Charley Corcoran

SPECIES
Canine

BREED
Miniature Poodle

SEX
Neutered male

AGE
3/29/07

WEIGHT
22 lbs

INTERPRETED BY
Lisa Carioto, DVM, DVSc, Diplomate ACVIM

HOSPITAL NAME
Belvedere VC

REFERRING VET
Dr. Moulder

INVOICE
99363

PRESENTING CLINICAL SIGNS

P presented for senior bloods. Was noted to have mild anemia and nRBCs. Recheck of blood work ~2 weeks later showed a persistent anemia but no nRBCS. GP ultrasound showed potential splenic nodule.
Current Medications: None.
Lab Results: 3/28/22= HCT 33%, Alb 2.3, Glob 4.0, >10 nRBC per 100 WBC. 4/13/22= HCT 32%, Alb 2.4, Glob 4.4, No nRBCs noted.
Date of Previous IntraPet Ultrasound: No previous.
Sedation: Not required to complete full diagnostic ultrasound.
Stat Report: Declined / 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.

Kidneys

The **left** kidney measures 5.09 cm. The capsule is smooth. The cortex is mildly hyperechoic that is the cortex is isoechoic to the spleen. A mild loss of the normal definition of the cortico-medullary junction is present. Very mild mineralizations of the diverticulae are present, without evidence of nephroliths. The pelvis measures 0.14 cm (clinically insignificant pyelectasia). Renal blood flow is excellent to increased, i.e. it is suggestive of hypertension. The surrounding mesentery is not hyperechoic.

A possible mild accumulation of ascites may have occurred during the ultrasound, i.e. a slightly larger amount of an effusion is observed surrounding the left kidney by the end of the study. Another possibility is that Charley's position was changed and the fluid was redistributed. Signs of overt bleeding are not observed.

The **right** kidney measures 4.26 cm. The capsule is smooth. A mild loss of the normal definition of the cortico-medullary junction is present. Very mild mineralizations of the diverticulae are present, without evidence of nephroliths or pyelectasia. Renal blood flow is excellent to possibly increased and may be suggestive of hypertension. The surrounding mesentery is not hyperechoic.

Adrenal Glands

The **left** adrenal gland measures 0.38 cm at the cranial pole, 0.27 cm at the caudal pole and 2.33 cm in length. Both poles are decreased in size and the gland is severely flattened along its length, however, no abnormalities are noted with the gland's overall echogenicity or echotexture. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

The **right** adrenal gland measures 0.68 cm at the cranial pole, 0.45 cm at the caudal pole and 2.00 cm in length. The cranial pole is enlarged, rounded and suggestive of a nodule. Despite these findings, 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

Presence of a solid, well-defined mass, which initially appears to originate from the head of the spleen. The solid, well-defined portion of the mass measures up to 6.84 cm in diameter x 6.17 cm in length. It is relatively homogeneous, i.e. overt cavitary lesions are absent. It is avascular, except at the periphery, when evaluated with colour Doppler. A small amount of anechoic free fluid is observed surrounding the spleen.

As the probe sweeps longitudinally, the mass becomes more heterogeneous and scalloped borders are noted, in addition to occasional anechoic, hypo and hyperechoic nodules of variable size. The portion of the body of the spleen that is normal is homogeneous and does not show any abnormalities with its echogenicity or echotexture.

Liver

There are no obvious signs of hepatomegaly and its borders are smooth and sharp, to mildly rounded. A diffuse, mildly coarse or granular echotexture is observed, which may be due to a reactive hepatopathy. Perivascular cuffing is present, which may be due to fat, fibrosis, mineralization, and/or inflammation. No obvious abnormalities are noted with the hepatic vessels. A very small amount of free fluid is observed between liver lobes.

The gallbladder (GB) wall is within normal limits in thickness, but hyperechoic. The appearance is somewhat similar to a "porcelain" GB. The echogenic material present within the GB is free floating, gravity-dependent, and inspissated. The latter has formed nodules. Multiple structures that cast acoustic shadows are present within the GB; they are consistent with choleliths, that have collected within the cystic duct. It is not possible to evaluate the common bile duct due to gas in the surrounding stomach and intestinal tract, however, an obvious obstruction is not present based on the appearance of the intrahepatic bile ducts.

Gastrointestinal

Gas is present within the lumen. The gastric wall is within normal limits in thickness and the wall layers are well defined.

Although the small intestinal wall thickness, including the duodenum, is within normal limits and the definition of the wall layers is preserved, fogging and stippling are present throughout the small intestines. A moderate amount of gas and ingesta are present within the small intestines, however, abnormally dilated loops of bowel are not observed.

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

There are no obvious signs of a mass, foreign body, infiltrative disease or an obstruction in the gastrointestinal tract.

Pancreas

The left limb is poorly visualized due to the splenic mass and the gas in the surrounding gastrointestinal tract.

The right limb has a mildly coarse echotexture. These changes are most likely due to nodular hyperplasia and areas of fibrosis, which are considered secondary to age and possibly to previous episodes of pancreatitis, respectively. Signs of active pancreatitis or neoplasia are not appreciated

Other

Lymph nodes

No abnormalities are observed

Abdominal effusion

A small amount of anechoic effusion is visualized surrounding the spleen and ventral to the urinary bladder.

Heart
No pericardial or pleural effusion is identified. Contractility and the four chambers of the heart appear to be within normal limits (measurements not performed). A mass is not observed on evaluation of the right ventricle, atrium or auricle. However, a mass may be overlooked in the absence of pericardial effusion.

ULTRASONOGRAPHIC FINDINGS

- The appearance of the splenic mass is not typical of hemangiosarcoma. Differential diagnoses include a lipoma or liposarcoma, which has become necrotic and hemorrhaged. A sarcoma or histiocytic sarcoma is also possible. Although much less likely, nodular hyperplasia and extramedullary hematopoiesis cannot be excluded. The abdominal effusion, in conjunction with the anemia, is most likely due to hemorrhage.

- A reactive hepatopathy and cholestasis are suspected. Cholangitis/cholangiohepatitis cannot be excluded.

- Choleliths are present in addition to a gallbladder wall that appears to be thin in some areas and calcified in others. Cholecystitis is likely present, and a suppurative form cannot be excluded. Although an obvious obstruction is not evident, cholecystectomy is usually the treatment of choice, particularly if a patient is showing clinical signs of gastroesophageal reflux disease (GERD), therefore, obtaining a history regarding signs of GERD from the client is suggested.

- Mild degenerative changes of both kidneys is observed, which are suggestive of age related degeneration. However, renal blood flow is increased bilaterally, which is suggestive of hypertension. Multiple causes of hypertension exist.

- The gastrointestinal changes are very subtle and may not be clinically significant, however, inflammatory bowel disease cannot be excluded.

- The pancreas' coarse echotexture is most likely due to nodular hyperplasia and areas of fibrosis, which are considered secondary to age and possibly to previous episodes of pancreatitis, respectively. There are no signs of active pancreatitis or neoplasia.

- A possible actively secreting tumour cannot be excluded for the findings of the adrenal glands, i.e., the thin and flattened left adrenal and the mildly enlarged, rounded cranial pole of the right. The appearance of the cranial pole is more of a nodule, rather than a mass. It should be noted that Charley is not demonstrating clinical signs of hyperadrenocorticism and should not influence clinical decisions as a fine needle aspirate may be performed at the time of surgery. Note these tumours are benign in 50% of cases. Although less likely, another possibility is that this is a normal variation for Charley.

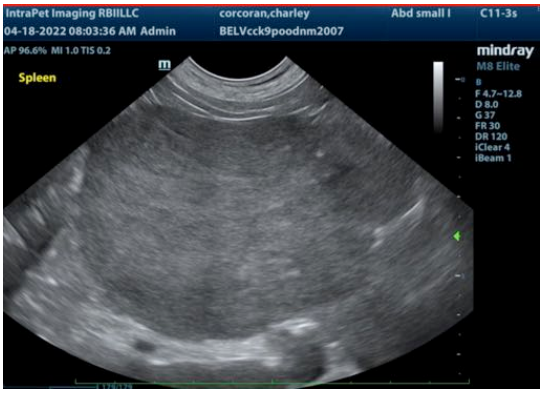
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

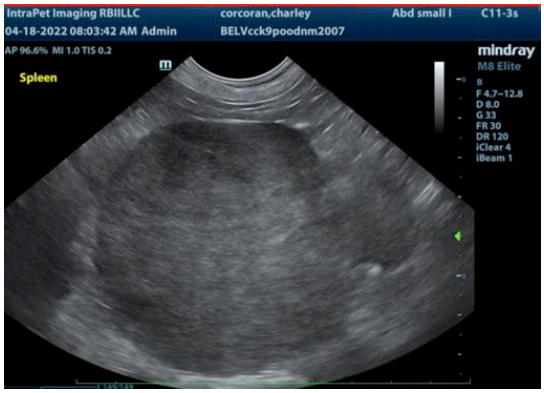
A fine needle aspirate of the splenic mass is required to obtain a definitive diagnosis as it is not possible to determine if it is malignant or benign based on its appearance alone.

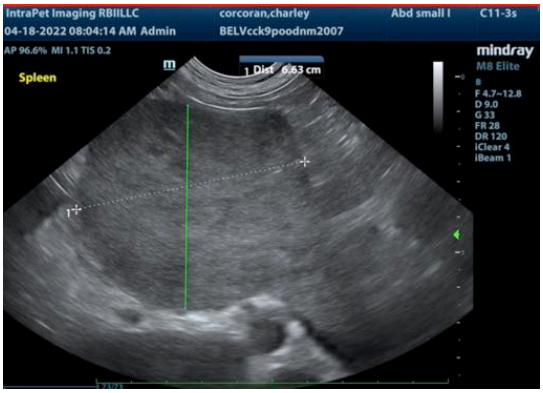
Another option is to perform a splenectomy, which is both diagnostic and therapeutic. An impression smear with STAT cytology may be considered during the procedure; if it is benign and general anesthesia is going well, one could consider performing a cholecystectomy.

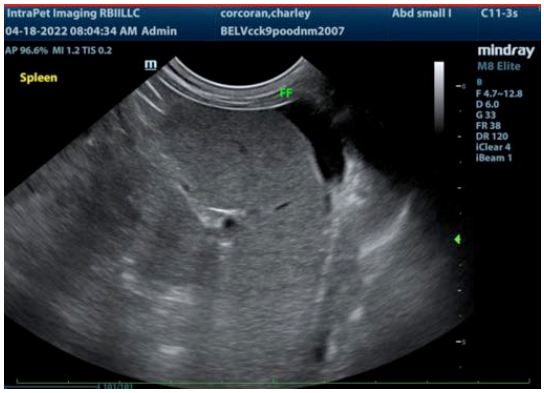
Measurement of Charley's arterial blood pressure is recommended, ideally in the presence of the client to decrease his stress level.

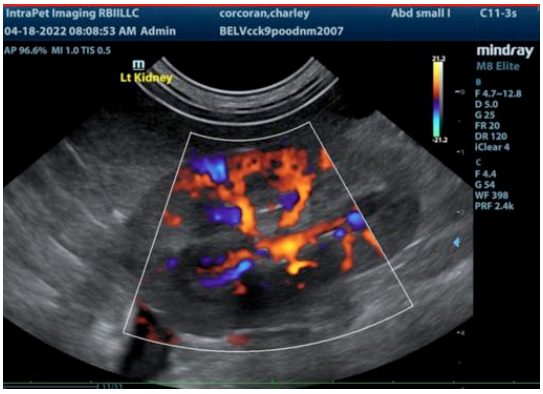
Analgesia is suggested for the choleliths and abdominal mass.

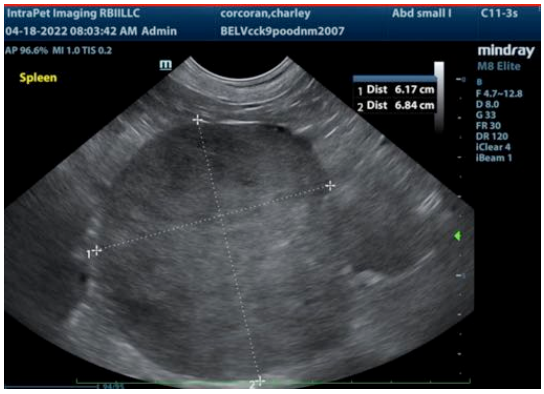


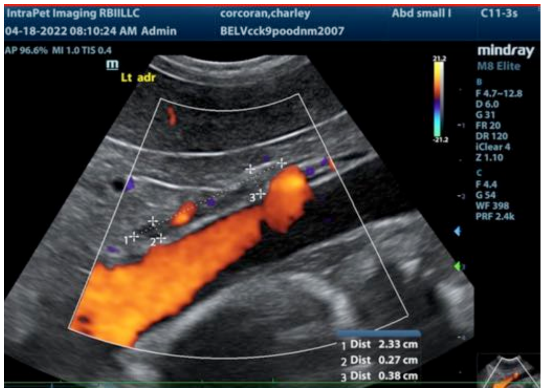








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Lt adr
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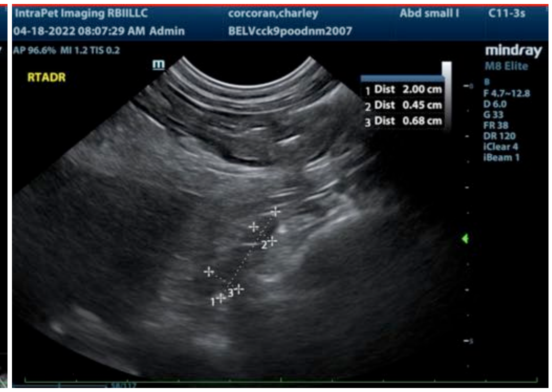
3 Dist 0.38 cm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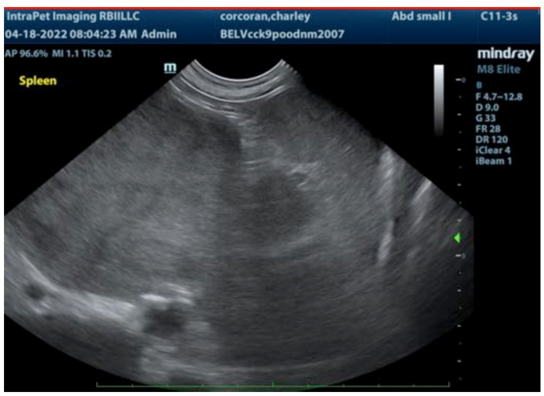
2 Dist 0.45 cm
3 Dist 0.68 cm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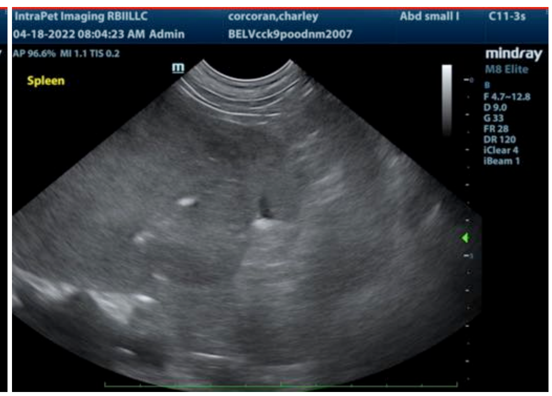
Spleen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mindray
M8 Elite
Spleen


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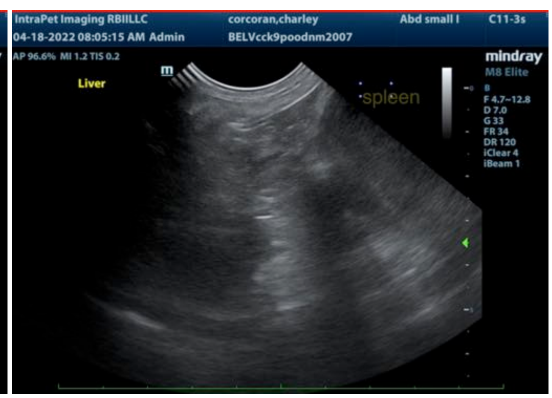
Spleen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mindray
M8 Elite
Liver
spleen


IntraPet Imaging RBIILLC
corcoran,charley
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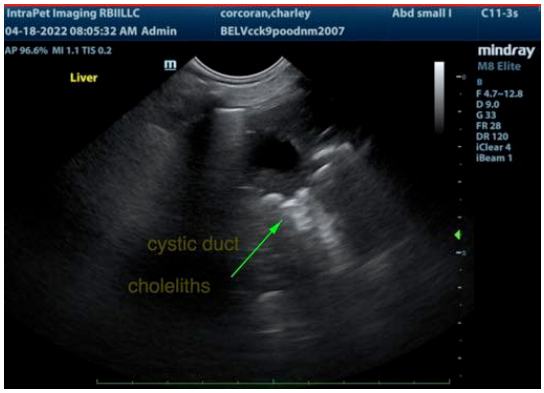
Liver
GB w/sludge
mindray
M8 Elite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choleliths
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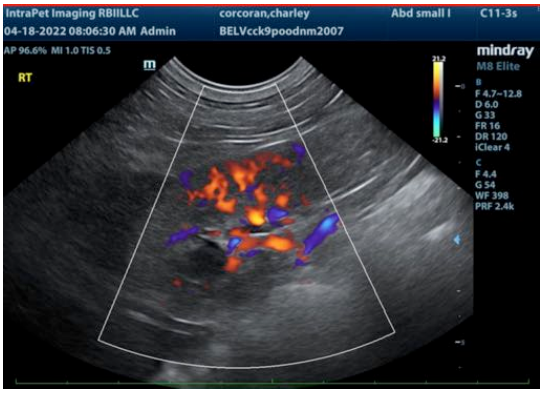
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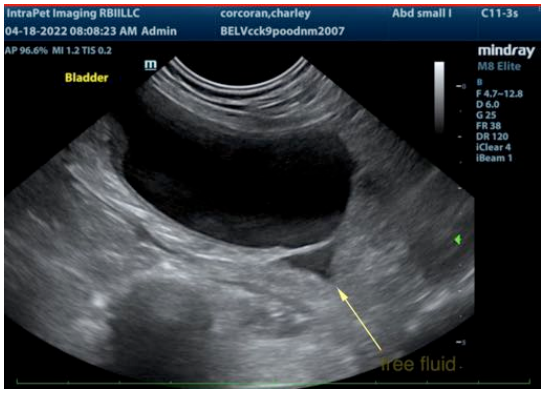
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Bladder
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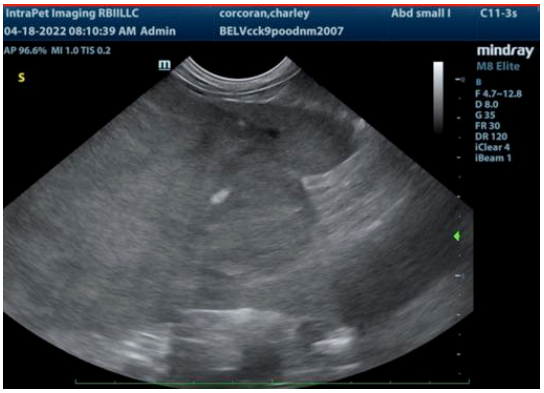
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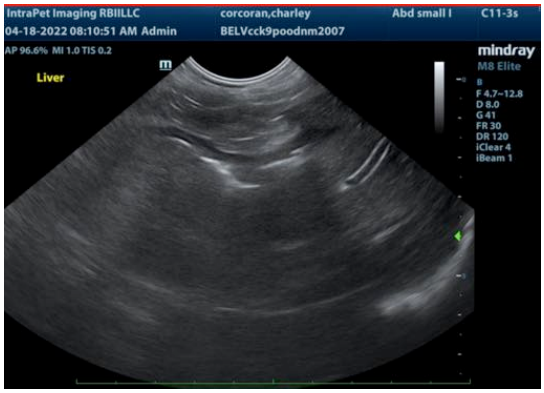
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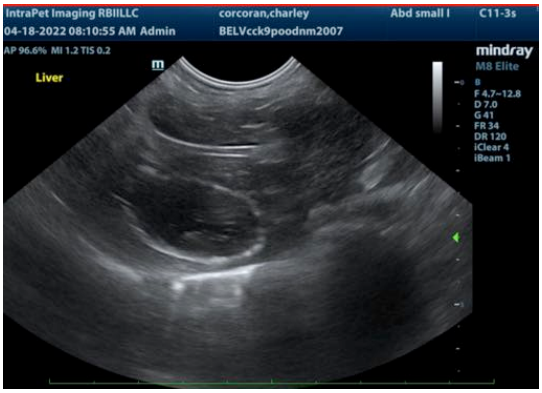
mindray
M8 Elite



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