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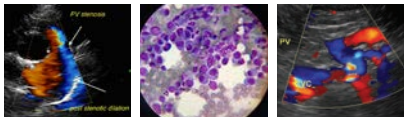

SonoPath

Clinical Sonography & Telecytology

EDUCATIONAL TELECONSULTATION SERVICES™

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DATE

6/7/22

PATIENT

Whitman Muse

SPECIES

Canine

BREED

English Cocker Spaniel

SEX

Intact Male

AGE

12/11/08

WEIGHT

33.5 Pounds

INTERPRETED BY

Lisa Carioto, DVM, DVSc, Diplomate ACVIM

IMAGING PERFORMED BY

Andi Parkinson RDMS

HOSPITAL NAME

Madonna Vet Clinic

REFERRING VET

Dr. Brockett

INVOICE

38490

PRESENTING CLINICAL SIGNS

Bloodwork showed mild anemia. Possible mass effect on abdominal x-ray in area of spleen.

Current Medications: Chloramphenicol 500mg 3 times daily for 28 days.
Lab Results: Mild anemia.
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. The wall is smooth and regular. No abnormalities are present with the trigone or proximal urethra. A small amount of free floating sediment is present, however, there is no evidence of cystoliths, polyps or a mass.

Prostate

The prostate is enlarged and mildly heterogeneous, measuring 3.52 cm in diameter. An anechoic structure, with a smooth, thin wall is noted centrally.

Testicles

Subjectively, the testicles are normal in size. They are symmetrical and homogenous in echotexture. No focal lesions are observed.

Kidneys

The **left** kidney measures 6.58 cm. The capsule is smooth. The cortex is hyperechoic and mildly thickened. A mild loss of the normal definition of the cortico-medullary junction is present. Mineralizations of the diverticulae and pelvis are present, without evidence of nephroliths. Pyelectasia (1.02 mm longitudinal view) is noted. An anechoic round structure (2 mm x 2 mm), suggestive of a fluid filled cyst is noted at the mesenteric border. It is not considered clinically significant. The surrounding mesentery is very mildly hyperechoic.

The **right** kidney measures 5.93 cm. The capsule is smooth. The cortex is hyperechoic and mildly thickened. A mild loss of the normal definition of the cortico-medullary junction is present. Mineralizations of the diverticulae and pelvis are present, without evidence of nephroliths. Pyelectasia (2.57 mm longitudinal view) is noted. The surrounding mesentery is very mildly hyperechoic.

Aortic bifurcation/trifurcation

No abnormalities observed.

Adrenal Glands

The **left** adrenal gland measures 0.69 cm at the cranial pole, 0.72 cm at the caudal pole and 1.92 cm in length. Both poles are mildly "plump", however, a discrete mass or nodule is not appreciated. 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 0.64 cm at the cranial pole, 0.74 cm at the caudal pole and 1.84 cm in length. Both poles appear round and somewhat "nodular", with the cranial pole appearing more well-circumscribed, i.e. a possible nodule cannot be excluded, however, there is no change in echogenicity or echotexture compared to the remainder of the gland. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

Spleen
The two masses arising from the body of the spleen, one on each side of the curvature, are observed.

Mass #1
A heterogenous mass, measuring approximately 5.4 cm in diameter x 5.26 cm in length, is present. It is slightly round with ill-defined, irregular contours and an echogenic "periphery". A "honeycomb" is noted dorsally; this extends towards the center of the mass. The honeycomb pattern is comprised of both anechoic and hypoechoic, well-defined cyst-like lesions. The dorsal peripheral portion of the mass is vascularized.

Mass #2
The second mass is also heterogeneous with a "honeycomb" pattern. However, in certain views, it has a more solid echotexture. In the latter view, the mass measures approximately 5.24 cm in diameter x 6.31 cm in length and consists of ill-defined hyper and hypoechoic "patches" dispersed haphazardly with an anechoic to hypoechoic, well-circumscribed, cyst-like nodule at the dorsal aspect of the mass. The latter measures 0.95 cm in diameter x 1.03 cm in length. In the other views, it has a similar cystic or cavitary appearance to mass #1.

Liver
Mild hepatomegaly is suspected, however, this is better characterized at the time of the ultrasound or with radiographs. The liver's borders are smooth, but mildly rounded. It is diffusely hyperechoic. A very subtle coarse/granular echotexture is observed.

A few hypoechoic nodules are observed scattered throughout the parenchyma. For example, a) hypoechoic nodule 0.93 cm x 0.95 cm and b) a subcapsular, hypoechoic nodule, measuring 0.54 cm in diameter x 1.83 cm in length. The nodule does not disrupt the integrity of the capsule. c) a very mildly hypoechoic, almost isoechoic, ill-defined region located subcapsularly (right liver), measuring approximately 2.01 cm in diameter x 4.05 cm in length. It does not disrupt the integrity of the capsule. It measures 2.01 cm x 1.74 cm in a slightly oblique view. d) a moderately heterogeneous encapsulated area, 1.66 cm in diameter, consisting of hypoechoic nodules of variable size and mildly hyperechoic parenchyma. No abnormalities are observed with the hepatic vessels visualized.

Gallbladder
The gallbladder (GB) wall is within normal limits in thickness and echogenicity. There is no evidence of echogenic material within the GB or 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
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.

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

Pancreas
No overt abnormalities are observed with the architecture, contours, echogenicity or echotexture of the pancreas. There is no evidence of hyperechogenicity of the surrounding mesentery, i.e., signs of active pancreatitis are not present.

Other
Lymph nodes
No abnormalities are observed

Abdominal effusion is not visualized.

ULTRASONOGRAPHIC FINDINGS

- **Spleen**: Two well-defined splenic masses with cystic or cavitary lesions may be consistent with hemangiosarcoma, however, hematomas are still possible. The solid hypoechoic regions within the second mass may occur with nodular or lymphoid hyperplasia, as well as extramedullary hematopoiesis.

- **Adrenal glands:** Both adrenal glands are at the high end of the normal reference range or very mildly enlarged. Bilateral adrenomegaly may occur due to adrenal hyperplasia, secondary to chronic illness (stress). Pituitary dependent hyperadrenocorticism is possible, however, further diagnostics should be based on clinical signs, presence of hypertension and/or proteinuria. The cranial pole of the right gland may be suggestive of a benign nodule (adenoma). Obvious signs of neoplasia are not observed.

- **Liver**: Vacuolar and reactive hepatopathies are suspected. A vacuolar hepatopathy may occur due to stress, such as chronic illness. Hyperadrenocorticism (HAC) is considered less likely in the absence of clinical signs. Cholestasis may also be present. Differential diagnoses, such as hepatitis, cholangitis/cholangiohepatitis, are unlikely. The majority of the hypoechoic lesions are well-defined and are suggestive of age-related nodular hyperplasia or regeneration. Target lesions, often noted with neoplasia, are not visualized, however, the region in the right liver lobe, adjacent to the right kidney, is heterogeneous. Although it does not have typical signs of malignancy, neoplasia cannot be excluded. Other differentials for this region are nodular hyperplasia mixed with fibrosis, deposition of fat and possibly mineralization.

- **Prostate:** Benign prostatic hyperplasia may be contributing to the prostamegaly, however, prostatitis must be considered due to the mildly heterogeneous appearance, including occasional cyst-like lesions. Findings should be correlated with clinical signs, a urinalysis and/or a prostatic wash. Neoplasia is considered unlikely.

- **Kidneys**: Bilateral renal changes, suggestive of age-related degeneration are observed, however, pyelectasia may occur with polydipsia and polyuria secondary to HAC, as well as pyelonephritis. Glomerulonephritis (GN) may also be contributing to the changes.

- **Urinary bladder**: The free floating sediment within the lumen of the urinary bladder is most likely composed of mucus, crystalline material and exfoliated cells. The debris may be clinically insignificant given the lack of inflammatory changes to the bladder wall, however, reflux from prostatitis or a prostatic infection is possible. Findings should be correlated with clinical signs and a urinalysis.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Thoracic radiographs (3 views) are suggested to exclude metastatic lung disease.

Exploratory laparotomy and splenectomy; both diagnostic and therapeutic. Fine needle aspirates are often non diagnostic, i.e. difficult to differentiate hemangiosarcoma from hematomas.

Evaluate a blood smear for signs of schistocytes (splenic masses) and regeneration (blood loss).

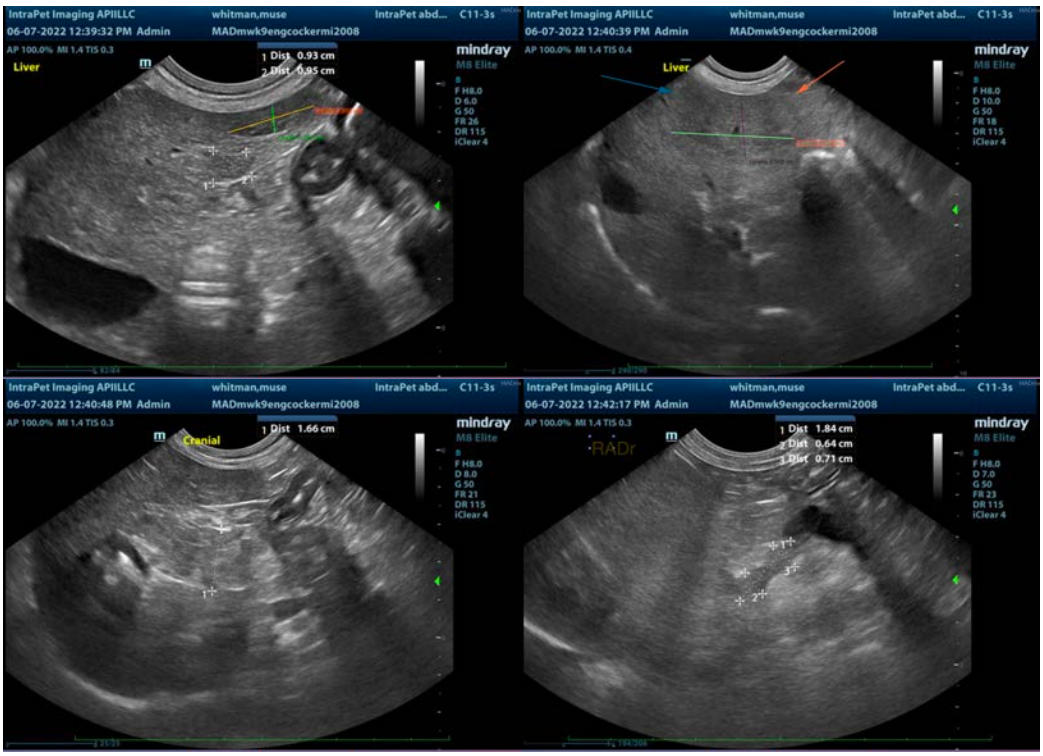
Continue monitoring CBC for signs of bone marrow suppression with administration of chloramphenicol.

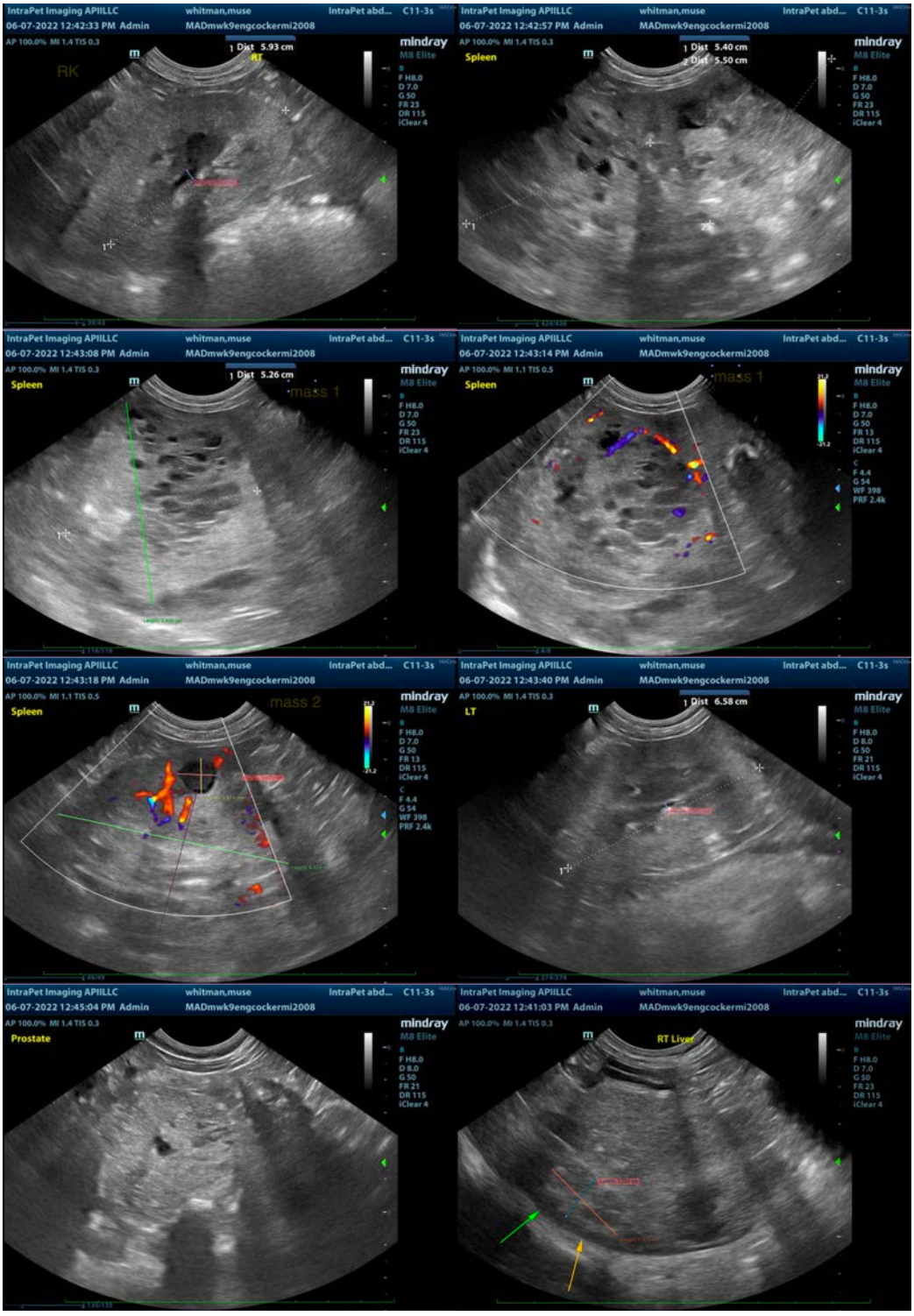
Recheck a urine culture and sensitivity or prostatic wash to ensure the original infection is well controlled.

Arterial blood pressure

A urine protein: creatinine ratio would be ideal to exclude GN, however, a false positive may occur due to systemic inflammation (splenic masses and prostatic changes).

Obtain history regarding possible pu/pd and other signs of hyperadrenocorticism, although the splenic masses are the primary medical issue at this time.

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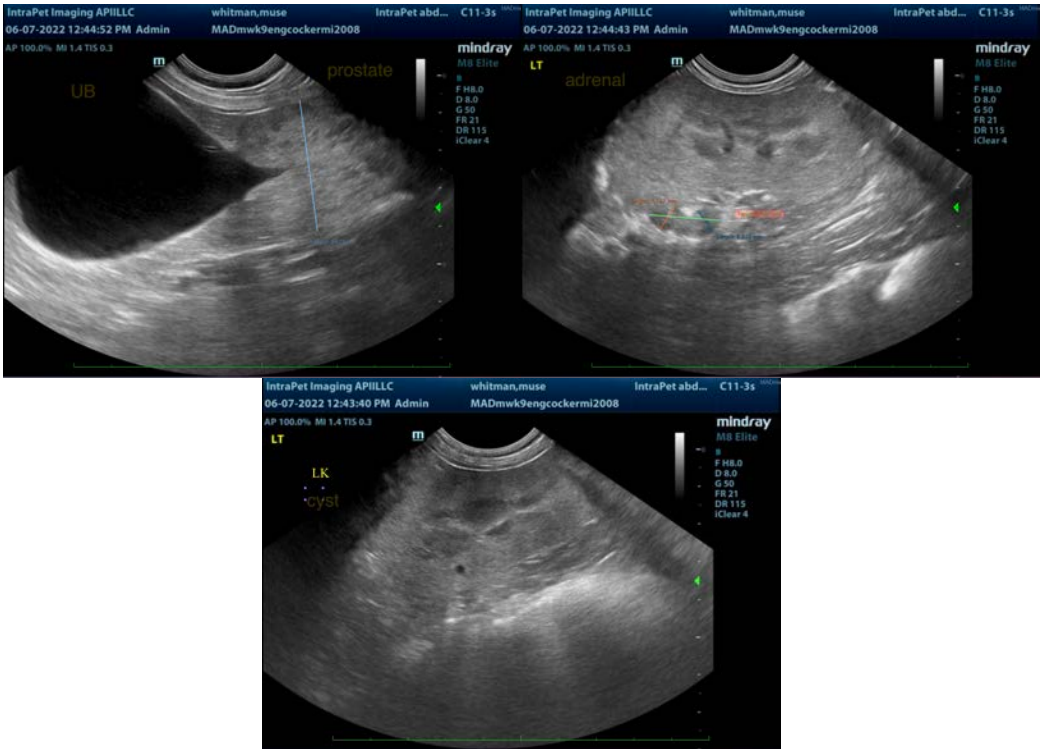

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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

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