IMAGING PERFORMED BY

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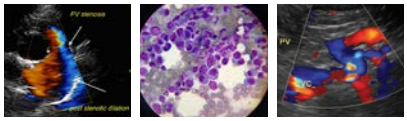

SonoPath

Clinical Sonography & Telecytology

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DATE

5/10/23

PATIENT

Kaiser Sheppard

SPECIES

Canine

BREED

GSD

SEX

Intact Male

AGE

7/27/12

WEIGHT

97 Pounds

INTERPRETED BY

Kathleen Sennello DVM, MS, Diplomate ACVIM (Small Animal Internal Medicine)

HOSPITAL NAME

Airpark AH

REFERRING VET

Dr. Mazzochette

INVOICE

47294

PRESENTING CLINICAL SIGNS

Splenic mass found incidentally 5/3/23, possible hypoechoic poorly defined liver nodules, gall bladder appears abnormal with cavitated material. Possible lung nodule visible on lateral view but not able to visualize on VD view. Hx of severe generalized DJD, chronic L hip subluxation, and progressive hind limb ataxia/proprioceptive deficits--r/o IVDD, degenerative myelopathy, other.

Current Medications: Carprofen 100mg BID for the past year, Gabapentin 100mg PO BID for the past few days, Amantadine 100mg SID for the past 2 months, Apoquel 16-24mg PO SID since 2018, Adequan as directed twice weekly for 4 wks then q 2wks
Lab Results: NSF July 2022.
Radiographs: Hips: SEVERE hip dysplasia and DJD L hip with severe flattening of acetabulum, moderate osteophytosis, moderate subluxation. Mild DJD L hip. Stifles: Severe DJD R stifle with possible moth eaten lysis present on VD view with mild periosteal reaction particularly at lateral aspect, however no obvious lysis visible on lateral view. Spine: mod to severe spondylosis along TL spine, most severe cranial lumbar spine. Thorax: mediastinal shift on VD view d/t sedation/atelectasis of L lung fields. Heart normal size/shape. Possible nodule mid thorax overlying heart on lat view however not repeatable on VD
Abdomen: mod hepatomegaly causing caudal displacement of stomach axis, mid abd mass effect, questionable soft tissue round structure caudal abd--suspect bladder but cannot r/o prostate
Partial abd US: Liver: Subjectively enlarged with multiple hypoechoic poorly defined nodules throughout. Gall bladder severely distended with cavitated hyperechoic debris, difficult to determine whether this is sludge in GB vs mass. Spleen: Approx 5x10cm hyperechoic mass mid spleen with several areas of cavitation, another smaller cavitated/irregular nodule caudal aspect of spleen.
Date of Previous IntraPet Ultrasound: No previous.
Sedation: Torbugesic IV.
Stat Report: Not requested.
Imaging Performed By: Stephanie Warga RDCS, RVT.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately distended with anechoic urine. The Bladder wall, trigone, ureteral papillae and visible urethra (to a depth of 2cm) appear normal with no evidence of wall thickening, mucosal irregularities, masses or cystic calculi.

The prostate is large, hyperechoic, and mottled, measuring 5.21 cm x 5.22 cm. The prostatic urethra appears normal with no evidence of irregularity, invasion, mass effect or calculi.

The left kidney has a normal shape and size (8.56 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (8.32 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is normal in size measuring 0.82 cm at the caudal pole. It is observed in its normal position cranial to the left renal artery. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

The right adrenal gland is normal in size measuring 0.79 cm at the caudal pole. It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

Spleen

The spleen is large and irregular. The blood flow through the hilus and splenic parenchyma appears normal. There is a large, hyper- to mixed echogenic mass effect associated with the mid body of the spleen measuring 8.56 cm x 6.98 cm. This lesion has small cystic areas/cavitations. Additionally, there is a smaller mixed echogenic mass effect towards the tail of the spleen measuring 4.69 cm x 2.23 cm.

Liver

The liver is subjectively normal in size, and echogenicity with smooth peripheral margins. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary tract appear normal. There are numerous ill-defined hypoechoic nodules visualized, two on the left measure 1.39 cm x 1.26 cm and 2.39 cm x 1.22 cm.

The gall bladder lumen is significantly distended. Some areas of the wall appear mildly thickened with adherent debris and some areas have early mucosal stranding and organization of the debris into an early mucocele. There is a large amount of primarily non-organized echogenic debris present as well. There is no evidence of bile duct dilation.

Gastrointestinal

The stomach contains minimal luminal contents. It measures at a normal thickness of <0.7cm with some variability due to the presence of rugal folds. The distinction of the gastric wall layers is adequate and there is no impression of reduced peristaltic activity. No masses or focal lesions were observed.

The visualized areas of duodenum, jejunum and ileum have a relatively uniform diameter with minimal fluid distension. Wall thickness is normal. Bowel loops follow a curvilinear path with distinct wall layering maintaining the typical 1:3 muscularis:mucosa layer ratio. Jejunum wall measures 0.29 cm. Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

The ileocecal junction was visualized and exhibited normal intact wall layering and is subjectively of normal thickness. Sections of colon are visualized with formed fecal material and gas shadowing distally. There is no observed focal or generalized colon wall thickening or loss of layering.

Pancreas

The area of the pancreas is normal and isoechoic to surrounding mesentery. There is no evidence of nodules or cystic lesions. There is no evidence of regional mesenteric inflammation or fluid.

Free Abdomen

Evaluation of the peritoneal cavity did not reveal any evidence of effusion, or subjective lymphadenomegaly. The Medial iliac nodes appear normal and there was no evidence of a caudal aortic thrombus at the bifurcation. The omentum is of normal uniform echogenicity.

Other

The right auricle and pericardium were visualized and were unremarkable. No obvious pathology is visualized. If cardiac function evaluation is desired a full echocardiogram is warranted.

ULTRASONOGRAPHIC FINDINGS

- Large, hyperechoic, heterogeneous prostate – Findings are most consistent with benign prostatic hypertrophy +/- prostatitis.

- Large, mid body mixed echogenic splenic mass lesion with mild cystic/cavitated regions and a smaller mixed echogenic mass towards the tail of the spleen – Two focal mixed echogenicity masses are present associated with the spleen. These masses distort the splenic capsule. Differentials include : benign lesions (lymphoid hyperplasia, hemangioma etc..) or cancerous lesions (hemangiosarcoma, lymphoma, histiocytic sarcoma etc..)

- Heterogeneous liver with ill-defined hypoechoic nodules – The diffuse hepatic changes are non-specific and could be consistent with vacuolar hepatopathy, nodular hyperplasia, inflammatory/immune-mediated disease, fibrosis, extramedullary hematopoiesis, toxic hepatopathy (e.g., copper), infiltrative neoplasia (less likely) or other hepatopathy. The appearance of these nodules trends towards a benign etiology, but given the splenic lesion, consider a fine needle aspirate of one of the more superficial nodules, as metastatic disease cannot be definitively ruled out.

- Large, distended gallbladder with a large amount of hyperechoic debris and early organization along the gallbladder wall – The gall bladder changes are most consistent with a developing mucocele. Consider medical management and close monitoring for progression of this lesion.

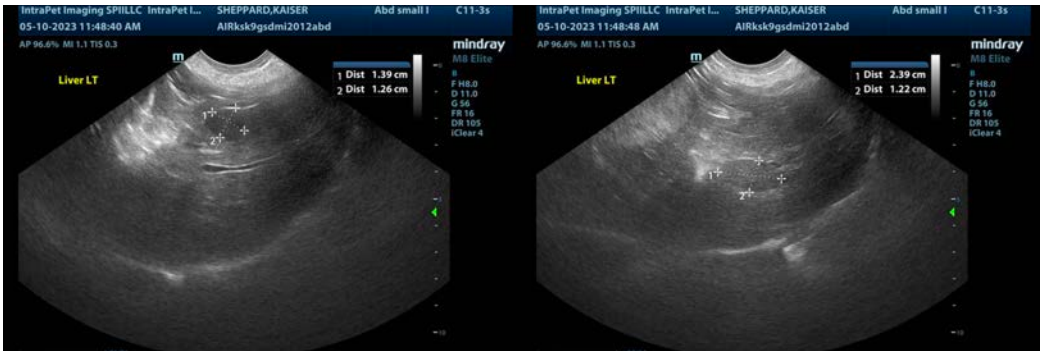
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

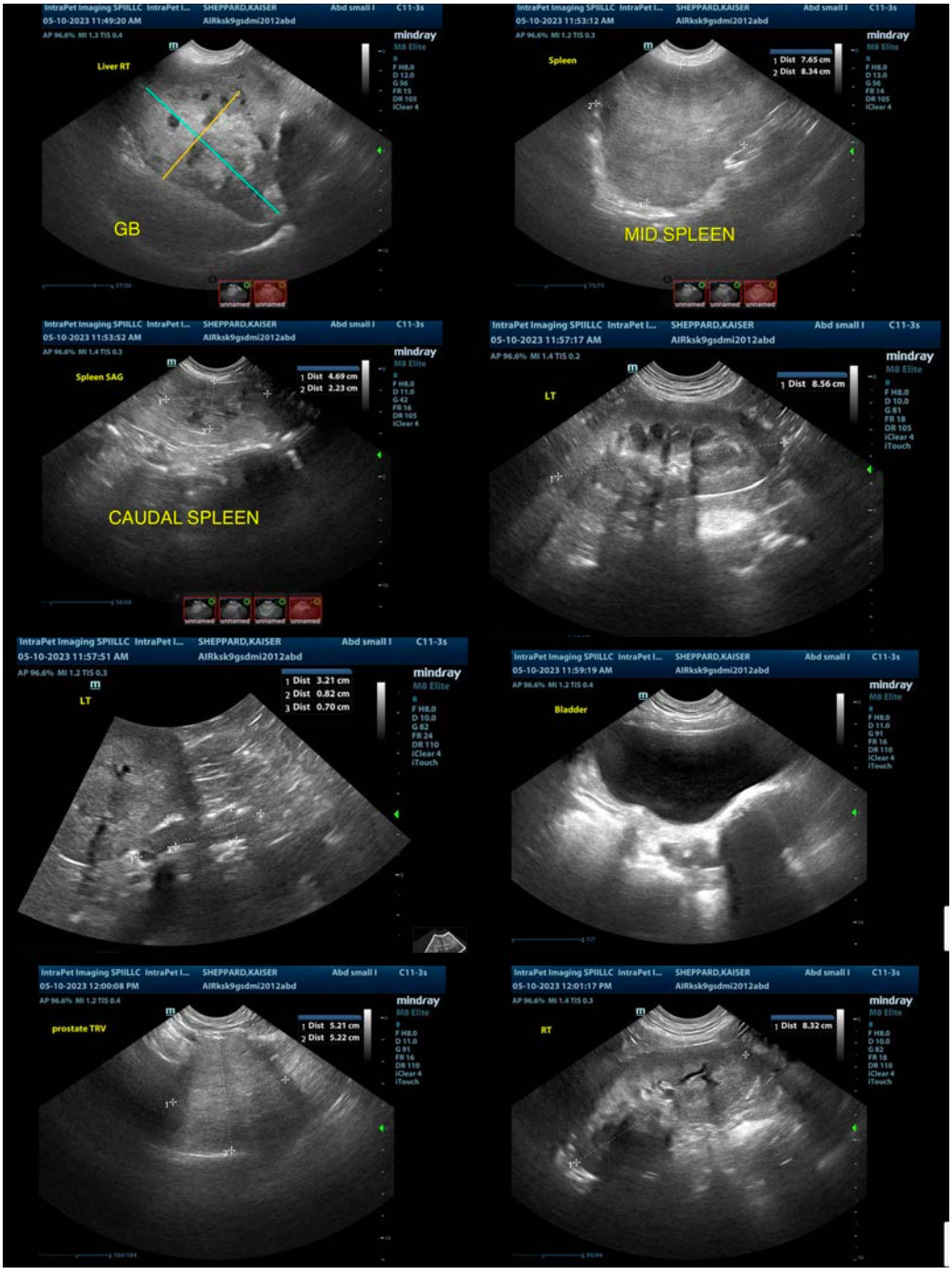
Two mixed echogenic mass lesions are visualized associated with the spleen. These lesions could represent a benign or neoplastic process. Options moving forward would include a splenectomy with histopathology and a biopsy of the liver/liver nodules to further evaluate. Alternately, you could consider a fine needle aspirate of a hepatic nodule to look for the possibility of hepatic metastasis prior to considering surgery.

The gallbladder is large and distended with non-organized material, but there is a small amount of organization starting along the gallbladder wall. Recommend starting Ursodiol therapy and continue to monitor liver enzymes and consider a recheck ultrasound in 3-4 months, looking for possible progression.

The changes visualized associated with the prostate are most consistent with benign prostatic hypertrophy. Recommend a urinalysis and culture, looking for evidence of prostatitis, and consider neutering if surgery is pursued.

Recommend three view thoracic radiographs to evaluate for possible concurrent thoracic disease/involvement.

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Liver RT
GB
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Spleen
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2 Dist 8.34 cm
MID SPLEEN
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Spleen SAG
1 Dist 4.69 cm
2 Dist 2.23 cm
CAUDAL SPLEEN
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LT
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mindray
LT
1 Dist 3.21 cm
2 Dist 0.82 cm
3 Dist 0.70 cm
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Bladder
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mindray
prostate TRV
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2 Dist 5.22 cm
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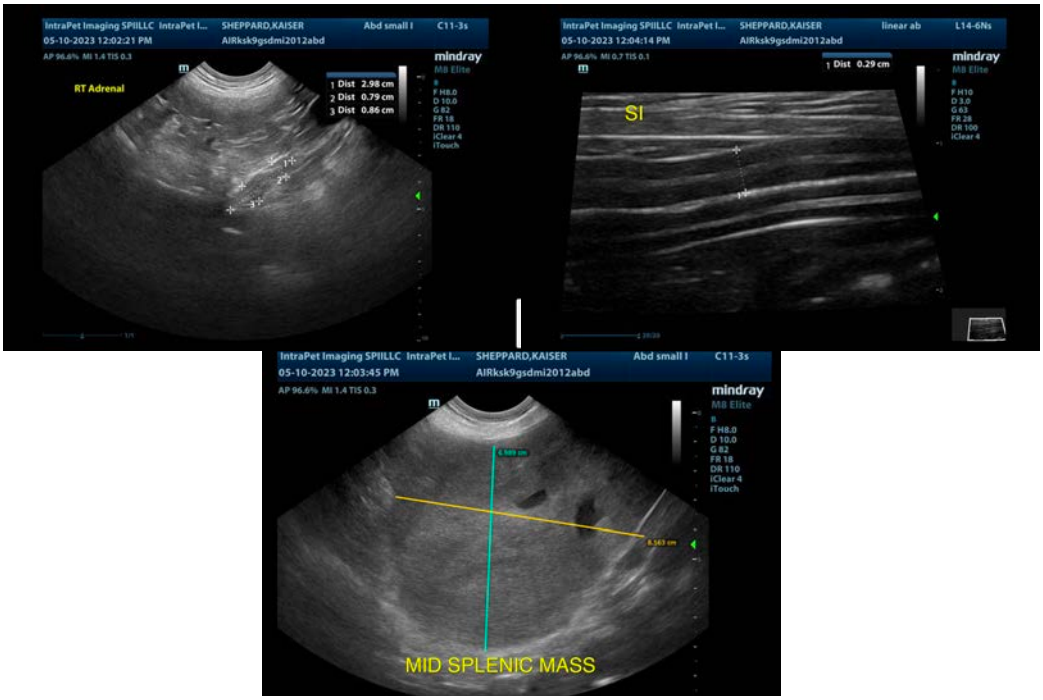
mindray
RT
1 Dist 8.32 cm



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.

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