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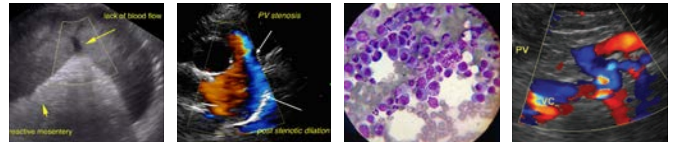
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



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

PATIENT

Brewster Strilka

SPECIES

Canine

BREED

Spaniel X

SEX

Neutered Male

AGE

13 Years 8 Months

WEIGHT

70.9 Pounds

INTERPRETED BY

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

IMAGING PERFORMED BY

Kalenius

HOSPITAL NAME

Willamette VH

REFERRING VET

Dr. Jimmerson

INVOICE

34144

DATE

1/12/22

PRESENTING CLINICAL SIGNS

Hospitalized for weakness , vomiting and pain - hips vs spine vs abdomen.
Abnormal PE/Chem/CBC/UA Results: PE = altered mentation (suspect canine cognitive dysfunction) and vocal. OU buphthalmos and mild scleral injection, lenticular opacities, MM pink and moist, CRT<2 sec. Dental disease. H/L auscult wnl, eupneic with normal BV sounds. No obvious abdominal or spinal pain on palpation today. ambulatory x4, thoracic limb gait mildly hypermetric, pelvic limb gait stiff with decreased hip ROM. Is painful on hip extension bilaterally with decreased ROM. Menace and dazzle wnl. PLRs slow / incomplete Normal IOP Initial radiographs No oevidence of GI obstruction. Hepatomegaly and splenomagly detected. CBC: elevated WBC 20.31, NEU 17.82, Plateletcrit 0.52, rest wnl Chem17: ALKP 395 (improved from previous), rest wnl EPOC: reduced K 3.3, PCO2 24.6. elevated Lac 4.71, pH 7.51. rest wnl Persistent HTN while hospitalized.

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 normal in size (0.85 cm) and shape for this neutered male dog. The parenchyma is homogenous and the external margins are smooth. The prostatic urethra appears normal with no evidence of irregularity, invasion, mass effect or calculi.

The left kidney has a normal shape and size (7.35 cm). Overall echogenicity is slightly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of 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 (7.05 cm). Overall echogenicity is slightly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

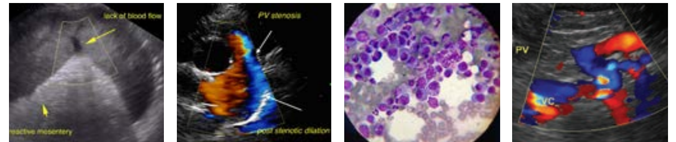
Adrenal Glands

The left adrenal gland is enlarged in size measuring 3.36 cm at the cranial pole, 1.4 cm at the caudal pole, and 5.4 cm in length. It is observed in its normal position cranial to the left renal artery. It is irregular in appearance in that it is large, and there is a 0.87 cm hyperechoic nodule in the cranial pole. Findings are most consistent with an enlarged left adrenal gland/adrenal mass.

The right adrenal gland is large in size measuring 2.4 cm at the cranial pole, 0.87 cm at the caudal pole, and 3.5 cm in length. It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is atypical in appearance in that it is large and somewhat irregular. Findings are most consistent with an enlarged right adrenal gland/adrenal mass.

Spleen

The spleen is large in size. The spleen echotexture is heterogenous and mottled, the splenic capsule is smooth with no irregularities. The blood flow through the hilus and splenic parenchyma appears normal. No focal parenchymal abnormalities are visualized.



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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, small hyperechoic nodules visualized within the parenchyma. Two measured at 0.8 and 0.65 cm.

The gallbladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. Luminal contents are primarily anechoic. The cystic and common bile ducts are normal/not visible.

Gastrointestinal

The stomach is moderately dilated with fluid and irregular shadowing material most consistent with normal ingesta and gas. 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 layering 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. The duodenum measured as normal (between 0.3-0.5cm in wall thickness) and the jejunum measured as normal (between 0.2-0.47cm.) Visualized peristalsis appears appropriate. There is a focal area of bowel with thickened walls and complete loss of layering. The wall in this area measured 1.0 cm thick, and the diameter of the loop of bowel is 2.5 cm. These findings are most consistent with a focal bowel mass.

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

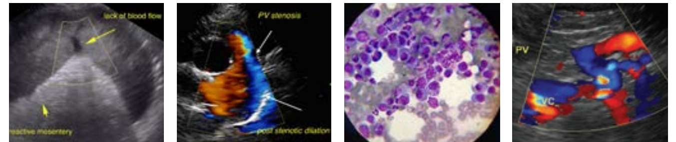
The pancreas is normal and isoechoic to surrounding mesentery. There is no evidence of nodules or cystic lesions. There is no evidence of regional mesenteric inflammation or fluid.

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.

PRIMARY FINDINGS

- Bilaterally large, irregular adrenal glands – most consistent with bilateral adrenomegaly and pituitary dependent hyperadrenocorticism with hyperplasia, or could be consistent with bilateral adrenal masses.
- Focal area of small intestine with a complete loss of layering and thickened wall – most consistent with an intestinal mass. Differentials include lymphoma, carcinoma, leiomyoma, leiomyosarcoma, etc.
- Heterogeneous liver with hyperechoic, ill-defined 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.



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- Large, mottled spleen – The diffuse splenic changes are non-specific and could be consistent with lymphoid hyperplasia, extramedullary hematopoiesis, infiltrative neoplasia, inflammation, other. Cytology or histopathology would be necessary to get a definitive diagnosis.

- Dependent mineralized debris in the urinary bladder – most consistent with small stones/sandy debris. Recommend urinalysis and culture. Correlate with abdominal radiographs.

SECONDARY FINDINGS

- Decreased corticomedullary distinction in both kidneys – The bilateral renal findings are consistent with age-related change.

- Moderate fluid distention of the gastric lumen – Most consistent with a recent meal. Correlate with history and radiographs. If the patient was adequately fasted, consider such differentials as delayed gastric emptying or a partial outflow tract obstruction (none visualized).

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

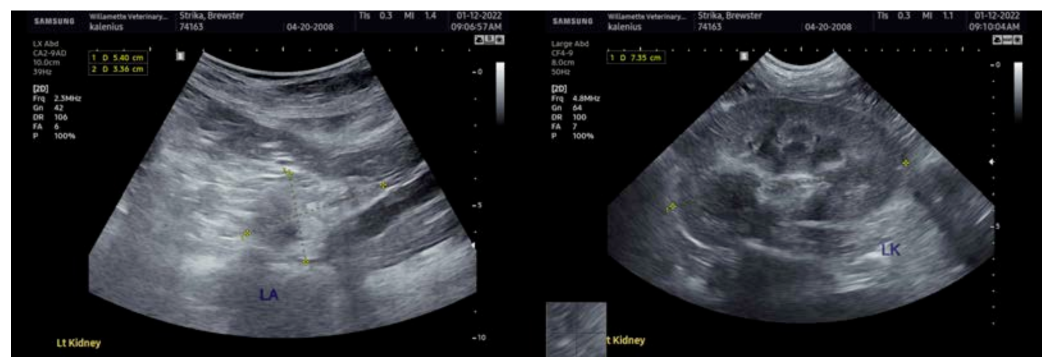
Both adrenal glands appear irregular and are very large. This would be most consistent with a diagnosis of pituitary dependent hyperadrenocorticism, although rarely you will have two concurrent adrenal masses present. I suspect the bowel mass in this individual has more to do with him not feeling well. If treatment/intervention is desired, options would include:

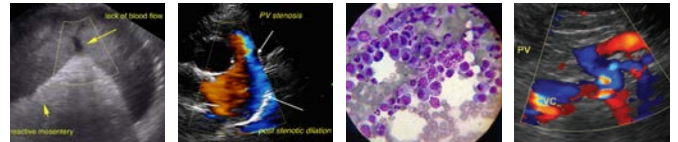
- Adrenal function testing (use caution with interpretation in sick pets).
- Blood pressure evaluation for hypertension.
- Consider Lysodren or Trilostane therapy if a cortisol excess is observed.
- Continue to monitor the adrenal glands with ultrasound.
- Alternately, you could consider a CT scan of the abdomen to better evaluate the adrenals and bowel mass.

There is a focal area of small intestine with a complete loss of layering and thickened bowel wall. Findings are most consistent with a focal bowel mass. Consider a fine needle aspirate of the wall of the bowel to try to determine the nature of the lesion. If a fine needle aspirate is not possible, then I would consider surgical resection.

The liver and spleen appear heterogeneous/mottled. These are non-specific findings. The enlarged liver could be secondary to a cortisol excess. A fine needle aspirate of both locations could be considered to rule out the possibility of infiltrative disease.

Recommend 3-view thoracic radiographs to look for concurrent intrathoracic disease.





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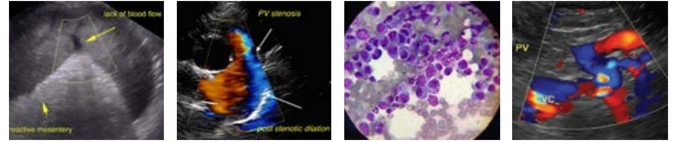

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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Kathleen Sennello DVM,MS, Diplomate ACVIM (Small animal Internal Medicine)
kathleen.sennello@sonopath.com