IMAGING PERFORMED BY

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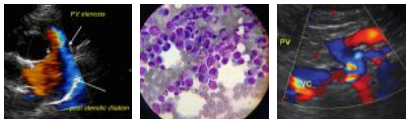

SonoPath
Clinical Sonography & Telecytology
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DATE

5/10/22

PATIENT

Snickers Hawes

SPECIES

Canine

BREED

Brussels Griffon

SEX

Neutered Male

AGE

7/15/10

WEIGHT

19.1 Pounds

INTERPRETED BY

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

IMAGING PERFORMED BY

Rachel Brilhart RDMS

HOSPITAL NAME

Animal Emergency Hospital

REFERRING VET

Dr. Martinoli

INVOICE

37571

PRESENTING CLINICAL SIGNS

Presented to rDVM for vomiting; also had diarrhea a few days ago. History of sensitive GI over past few years; has done better since starting homemade diet.

Current Medications: None listed.
Lab Results: Lipase - 4765 (1800), ALB - 4.7 (3.9), ALKP - 496 (212)
WBC - 25K (16K); Neuts - 20.7K (11.6K).
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 moderately distended with anechoic urine. The Bladder wall appears relatively normal in thickness with very mild mucosal irregularity. In the dependent portion of the urinary bladder, there is a line of shadowing, hyperechoic material, most consistent with sandy debris/stones, which in some images extends into the proximal urethra, all the way to the prostatic urethra.

The prostate is normal in size (0.81 cm) and shape for this neutered male dog. The parenchyma is homogenous and the external margins are smooth. Sandy debris is noted within the prostatic urethra.

The left kidney has a normal shape and size (4.95 cm) with pinpoint non-obstructive nephroliths. Overall echogenicity is normal with adequate 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, infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (4.68 cm) with pinpoint non-obstructive nephroliths. Overall echogenicity is normal with adequate 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, infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is large in size measuring 1.21 cm at the cranial pole, 0.68 cm at the caudal pole, and 2.93 cm in length. It is observed in its normal position cranial to the left renal artery. It is irregular in appearance in that there is a nodule in the cranial pole measuring 1.21 cm x 1.3 cm. There is mild irregularity along the medial border, which could be consistent with early vascular invasion. No surrounding inflammation or fluid is visualized.

The right adrenal gland is normal in size measuring XXcm 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 subjectively normal in size, echotexture is homogenous, and 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.

Liver

The liver is large in size, and normal in 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. Numerous ill-defined, hypoechoic nodules are visualized throughout the

parenchyma. A larger, ill-defined, isoechoic mass effect is visualized towards the right side of the liver, measuring 2.19 cm x 3.16 cm. A smaller hyperechoic nodule is visualized adjacent to this lesion, measuring 1.0 cm x 1.64 cm.

The gallbladder lumen is moderately distended with echogenic debris. This debris is non-organized, but does have some adherence to the gallbladder wall. In some views, there is hyperechoic shadowing material visualized, most consistent with small stones, and there is the possibility of some of these stones in the proximal bile duct, but no bile duct dilation is appreciated.

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. 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 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 pancreas is prominent and hypoechoic as compared to the surrounding isoechoic 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.

ULTRASONOGRAPHIC FINDINGS

- Sandy debris/small stones within the dependent portion of the urinary bladder extending into the proximal urethra.
- Hyperechoic nodule in the cranial pole of the left adrenal gland with mild irregularity – possibly consistent with early vascular invasion.
- Left adrenomegaly could be consistent with neoplasia (e.g., adenoma, carcinoma, pheochromocytoma), hyperplasia, inflammation, other.
- Hypoechoic, prominent pancreas – The pancreatic changes are most consistent with mild pancreatitis or a recent episode of pancreatic inflammation.
- Heterogeneous liver with an isoechoic small mass effect and smaller hyperechoic nodule – 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. These lesions are somewhat subtle and could be consistent with benign or cancerous disease.

- Moderate gallbladder debris and gallstones – In some views, some of these small stones appear to be within the proximal bile duct. No bile duct dilation is observed.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

There are numerous lesions observed within the abdomen, but it is difficult to determine if these lesions are responsible for the symptoms described in the history. No primary gastrointestinal lesions are observed other than a prominent, hypoechoic pancreas. Further evaluate this finding with a quantitative PLI and consider treatment for pancreatic inflammation.

The liver is heterogeneous with some ill-defined nodules/small masses. This can be a common finding in older dogs, and it is difficult to determine if these lesions could be cancerous or benign. Options include continued monitoring with ultrasound, advanced imaging with a contrast CT scan, and/or fine needle aspirate (may be challenging to reach due to depth).

Additionally, the gallbladder has a moderate amount of debris within it, and some adhered debris to the wall. There is concern for possible mineralizations within the proximal bile duct. Recommend starting Ursodiol and a course of antibiotics with close continued monitoring, as this could be a source of GI upset.

There is a moderate amount of sandy dependent debris visualized within the urinary bladder and within the proximal urethra and prostatic urethra. Recommend urinalysis and culture and abdominal radiographs to determine if this mineralization can be seen. If an infection is possible, these could be small struvite stones, and they may be dissolvable. There is even the possibility that they could be flushed out with a catheter depending on the size.

There is a hyperechoic nodule visualized within the left adrenal gland. These can be benign or malignant, and can be actively secreting hormone or be non-secretory. There is some concern for an irregular border, which could be early vascular invasion. Options moving forward would include contrast CT to better evaluate for vascular invasion and for possible surgical evaluation. The liver and gallbladder could also be evaluated at this time with CT.

If surgical intervention would not be pursued, then you could consider adrenal function testing if signs of Cushing's are present, recommend a blood pressure evaluation to look for evidence of a pheochromocytoma, and consider continued monitoring with ultrasound to look for evidence of further invasion, growth, etc., as some of these lesions can be aggressive and change quickly.

Consider three view thoracic radiographs to rule out concurrent thoracic disease/involvement.


IntraPet Imaging RBIILLC
hawes,snickers
Abd small L
05-10-2022 01:25:35 PM Admin
AEHshk9brussnm2010
mindray
Rt Kidney
1 Dist 4.68 cm


IntraPet Imaging RBIILLC
hawes,snickers
Abd small L
05-10-2022 01:26:06 PM Admin
AEHshk9brussnm2010
mindray
Rt adr
1 Dist 2.54 cm
2 Dist 0.66 cm
3 Dist 0.76 cm


IntraPet Imaging RBIILLC
hawes,snickers
Abd small L
05-10-2022 01:27:48 PM Admin
AEHshk9brussnm2010
mindray
Lt adr
NODULE
1 Dist 2.93 cm
2 Dist 1.21 cm
3 Dist 0.68 cm


IntraPet Imaging RBIILLC
hawes,snickers
Abd small L
05-10-2022 01:27:30 PM Admin
AEHshk9brussnm2010
mindray
Lt Kidney
1 Dist 4.95 cm


IntraPet Imaging RBIILLC
hawes,snickers
Abd small L
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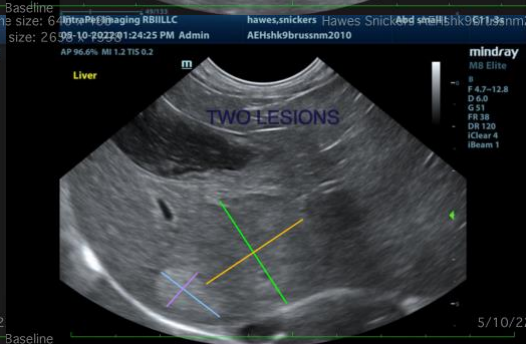
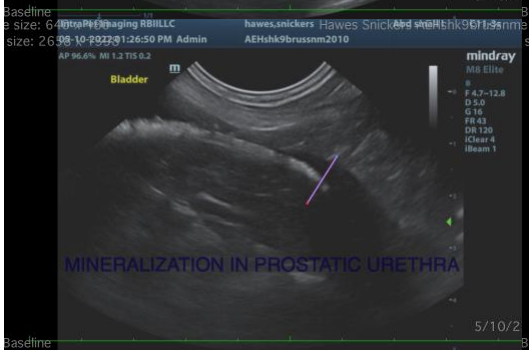
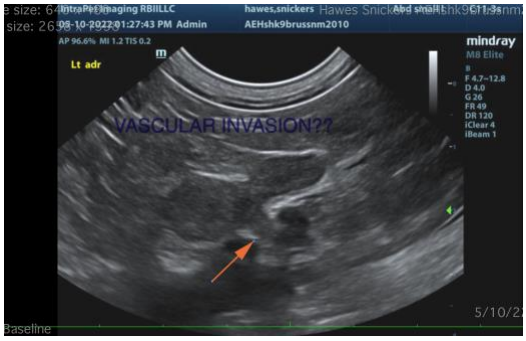
AEHshk9brussnm2010
mindray
Pancreas
1 Dist 1.26 cm
2 Dist 0.21 cm


IntraPet Imaging RBIILLC
hawes,snickers
Abd small L
05-10-2022 01:24:25 PM Admin
AEHshk9brussnm2010
mindray
Liver
TWO LESIONS


IntraPet Imaging RBIILLC
hawes,snickers
Abd small L
05-10-2022 01:26:50 PM Admin
AEHshk9brussnm2010
mindray
Bladder
MINERALIZATION IN PROSTATIC URETHRA


IntraPet Imaging RBIILLC
hawes,snickers
Abd small L
05-10-2022 01:29:38 PM Admin
AEHshk9brussnm2010
mindray
Liver
GB



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.

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