



PATIENT

Denver Hubert

SPECIES

Canine

BREED

Beagle

SEX

Neutered Male

AGE

6 Years

WEIGHT

18 kg

INTERPRETED BY

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

IMAGING PERFORMED BY

Dr. Colborne

HOSPITAL NAME

Aberdeen Vet Hospital

REFERRING VET

Dr. Colborne

INVOICE

38109

DATE

5/31/22

PRESENTING CLINICAL SIGNS

May 18th presented to regular vet for lethargy, leaking urine around the house, painful abdomen and a few episodes of vomiting for a few days. He has also has softer stools. Regular vet performed blood work (below) and recommended abdominal ultrasound. Regular vet suspecting neoplasia, adrenal issue and/or chronic hepatitis. Since then has become more lethargic and has lost 2kg.

Abnormal PE/Chem/CBC/UA Results: No major findings on PE other than painful abdomen. Blood work shows increased bilirubin, polycythemia (60% HCT) with dilute USG.

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 (0.84 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 (5.59 cm). 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, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (5.3 cm). 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, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is normal in size measuring 0.66 cm at the cranial pole, 0.74 cm at the caudal pole, and 3.05 cm in length. It is observed in its normal position cranial to the left renal artery. It is somewhat abnormal in appearance in that there is a focal hyperechoic region on the cranial pole measuring 0.45 cm in diameter, most consistent with a small nodule on the cranial pole of the left adrenal.

The right adrenal gland is normal in size measuring 0.39 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 normal/borderline large 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 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. Several hypoechoic, poorly defined lesions are visualized, one measuring 0.73 cm x 0.92 cm. Another measures 0.78 cm x 0.51 cm.



PATIENT

Denver Hubert

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.

SPECIES

Canine

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.

BREED

Beagle

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.)

SEX

Neutered Male

Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

AGE

6 Years

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

WEIGHT

18 kg

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

INTERPRETED BY

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

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

IMAGING PERFORMED BY

Dr. Colborne

- Hyperechoic region/nodule on the cranial pole of the left adrenal gland – findings could be consistent with an incidental finding, benign hyperplasia, or an early neoplastic lesion.
- Borderline enlarged spleen – The spleen appears relatively normal, but is generous in size. This could be a normal anatomic variant, congestion, or infiltrative disease.
- Heterogeneous liver with poorly 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 hypoechoic nodules trend towards a more benign appearance, although an underlying neoplastic etiology cannot be ruled out.

HOSPITAL NAME

Aberdeen Vet Hospital

REFERRING VET

Dr. Colborne

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

INVOICE

38109

There is a small hyperechoic region in the cranial pole of the left adrenal gland. This does not appear to deform the adrenal significantly. These lesions can be benign or malignant and can secrete hormones or be non-active. Options moving forward include:

DATE

5/31/22



PATIENT

Denver Hubert

- If signs of cushings are present, consider adrenal function testing. I prefer an ACTH stimulation test combined with an adrenal panel to the University of Tennessee's endocrine lab to look for atypical adrenal hormones as well as cortisol. (other testing can suffice)

SPECIES

Canine

- If adrenal dependent cushings is suspected and supported by adrenal function testing consider medical therapy with lysodren or trilostane or consider surgical removal (recommend referral to a board certified veterinary surgeon and possible pre op CT)

BREED

Beagle

- Recommend blood pressure evaluation-if hypertensive consider testing catecholamine levels for a possible pheochromocytoma

SEX

Neutered Male

- If no symptoms of cushings are present, consider either referral for surgery or continued monitoring with ultrasound (in 3-4 months).

- Many of these nodules can be benign and incidental in nature, unfortunately that is difficult to determine with a single ultrasound.

AGE

6 Years

The liver is somewhat heterogeneous with ill-defined hypoechoic regions. This is a non-specific finding. Given the absence of liver enzyme elevations, I am inclined to think this is less significant. A fine needle aspirate +/- liver function test could be considered.

WEIGHT

18 kg

An obvious cause for abdominal pain and vomiting is not readily identified. The history reports an elevation in bilirubin, which would be unexpected if other liver enzyme elevations were not present (consider hemolysis, lipemia, etc?). Additionally, there was no evidence of hyperechoic omentum or lesions to indicate a pain source. Unfortunately, there are many causes for vomiting that cannot be diagnosed by ultrasound alone.

INTERPRETED BY

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

- If primary gastrointestinal disease is thought likely, then consider a GI panel to Texas A&M for a qualitative PLI, TLI, cobalamin and folate to further evaluate the pancreas and small intestine.

IMAGING PERFORMED BY

Dr. Colborne

- Recommend abdominal radiographs and 3-view thoracic radiographs.
- Consider non-abdominal sources of pain such as referred pain from the back.
- With the history of leaking urine, recommend a urine culture to evaluate for possible pyelonephritis.

HOSPITAL NAME

Aberdeen Vet Hospital

If symptoms are persistent despite symptomatic treatment for pancreatitis/gastroenteritis, you could consider either a contrast CT scan to try and obtain better detail, looking for a cause, or you could consider an upper GI endoscopy to evaluate the stomach and proximal small intestine.

REFERRING VET

Dr. Colborne

INVOICE

38109



DATE

5/31/22



PATIENT

Denver Hubert

SPECIES

Canine

BREED

Beagle

SEX

Neutered Male

AGE

6 Years

WEIGHT

18 kg

INTERPRETED BY

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

**IMAGING
PERFORMED BY**

Dr. Colborne

HOSPITAL NAME

Aberdeen Vet Hospital

REFERRING VET

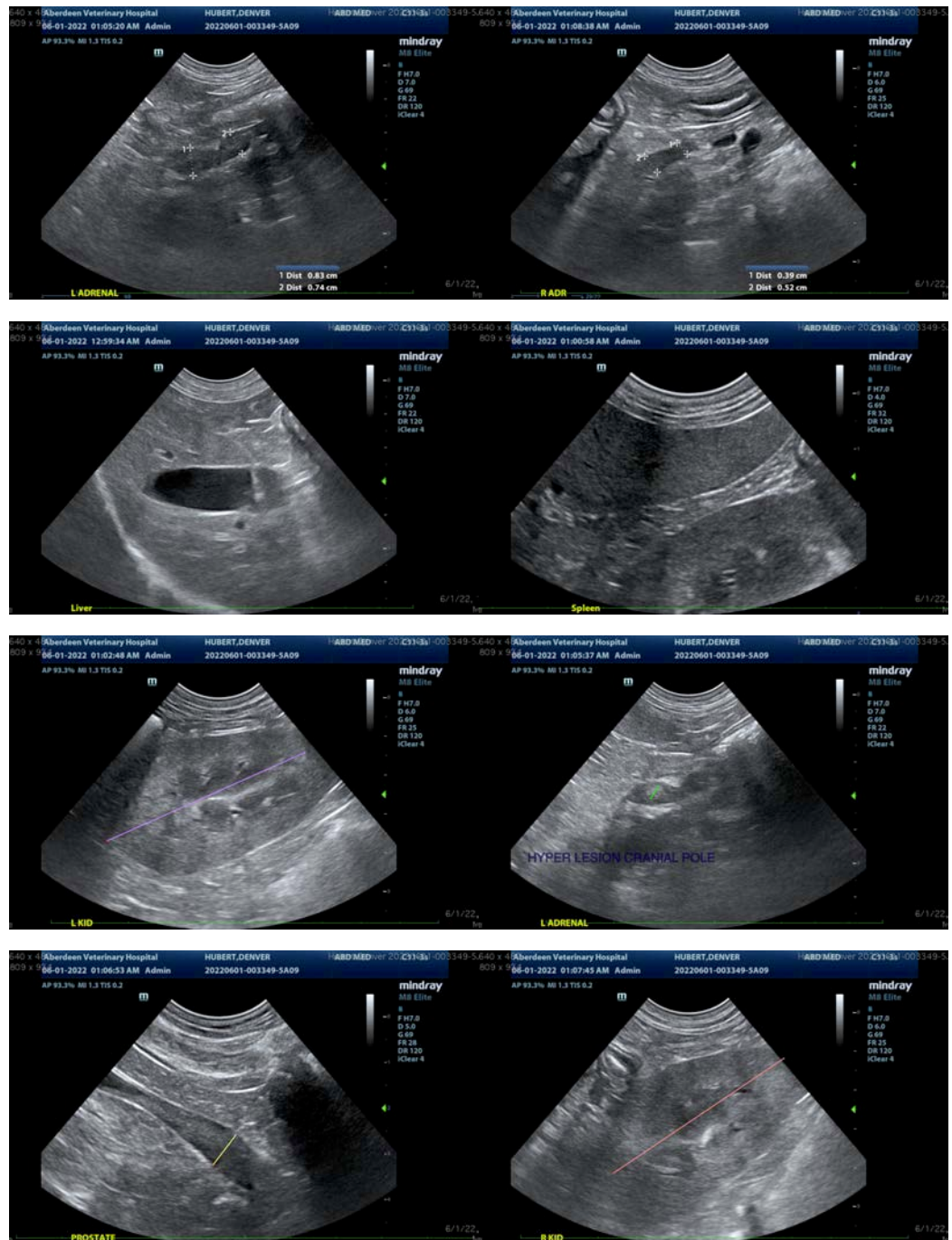
Dr. Colborne

INVOICE

38109

DATE

5/31/22





PATIENT

Denver Hubert

SPECIES

Canine

BREED

Beagle

SEX

Neutered Male

AGE

6 Years

WEIGHT

18 kg

INTERPRETED BY

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

**IMAGING
PERFORMED BY**

Dr. Colborne

HOSPITAL NAME

Aberdeen Vet Hospital

REFERRING VET

Dr. Colborne

INVOICE

38109

DATE

5/31/22



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