



PATIENT

Mocha Graham

PRESENTING CLINICAL SIGNS

History: Patient is preparing for laryngeal paralysis tie back. Has a history of gradually progressive ALP, most recently 1179. Other labwork completely within normal limits.

SPECIES

Canine

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

BREED

Mix

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.

SEX

Spayed Female

The left kidney has a normal shape and size (6.7 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. Pinpoint, non-obstructive nephroliths were noted. There is no evidence of pyelectasia, infarcts or hydroureter. Renal vasculature is normal.

AGE

11 years

The right kidney has a normal shape and size (7.08 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.

WEIGHT

70 lbs

Adrenal Glands

INTERPRETED BY

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

The left adrenal gland is large in size measuring 0.88 cm at the cranial pole and the caudal pole measures 0.66 cm. It is observed in its normal position cranial to the left renal artery. It is abnormal in appearance. The cranial pole is enlarged and has a hyperechoic nodule measuring 0.72 x 0.96 cm. There is no overt mass effect, but the cranial pole is enlarged. There are no vascular abnormalities.

The right adrenal gland is normal in size measuring 0.61 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.

IMAGING PERFORMED BY

Dr. Mengine

Spleen

HOSPITAL NAME

Stoney Creek VH

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.

REFERRING VET

Dr. Mengine

Liver

INVOICE

91742

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. No focal nodules or cystic lesions are observed. The gallbladder lumen is moderately distended. The wall of the gallbladder is not thickened and has a smooth mucosal surface. There is a moderate amount of non-organized echogenic debris. The cystic and common bile ducts are normal/not visible.

DATE

9/9/21



PATIENT

Gastrointestinal

Mocha Graham

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.

SPECIES

Canine

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 and the jejunum measured as normal (0.28 cm). Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

BREED

Mix

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.

SEX

Spayed Female

Pancreas

AGE

11 years

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.

WEIGHT

70 lbs

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.

INTERPRETED BY

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

ULTRASONOGRAPHIC FINDINGS

PRIMARY FINDINGS:

- Hyperechoic nodule in the cranial pole of the left adrenal gland. Adrenomegaly could be consistent with neoplasia (e.g., adenoma, carcinoma, pheochromocytoma), hyperplasia, inflammation, other.
- Heterogenous liver. 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.
- Mild gallbladder sludge. The significance of the aggregated gallbladder debris is unclear. This could represent an early mucocele, cholestasis, or may be secondary to fasting.

IMAGING PERFORMED BY

Dr. Mengine

HOSPITAL NAME

Stoney Creek VH

REFERRING VET

Dr. Mengine

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

INVOICE

91742

There is a nodule present in the left adrenal gland. The nodule is relatively small and it is not significantly deforming the adrenal gland. There is no evidence of vascular invasion. These nodules can be benign or malignant and can secrete hormones or be non active. Options moving forward include:

DATE

9/9/21



PATIENT

Mocha Graham

- If signs of Cushing's 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)
- If adrenal dependent Cushing's 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)
- Recommend blood pressure evaluation-if hypertensive consider testing catecholamine levels for a possible pheochromocytoma
- If no symptoms of Cushing's are present, consider either referral for surgery/CT 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.

SPECIES

Canine

BREED

Mix

SEX

Spayed Female

The liver is difficult to visualize clearly. I suspect that this is a deep chested dog. It does not appear overtly enlarged, but it is mildly heterogenous, which is a non-specific finding. I was not able to visualize any biliary changes. These are things to consider the ALP elevation. This could be related to the adrenal nodule or an incidental finding.

AGE

11 years

- Induction phenomena is the most common cause of an elevated ALP. These are systemic illnesses that 'turn on' the liver enzyme. Causes of this include Cushing's disease, dental disease, arthritis, and numerous others. In many cases the exact cause is unclear but as long as ultrasound and bile acids tests are normal most patients do not have progressive changes in their liver. While liver biopsy is not routinely performed, vacuolar hepatopathy, is noted on most biopsies. This is often non-progressive but in rare cases can be more severe and lead to liver failure.
- If signs of Cushing's disease are present recommend endocrine function testing to evaluate for Cushing's disease.
- Consider fine needle aspirate to rule out round cell neoplasia -if this is a concern.
- If a cause for the ALP elevation is not identified: I recommend recheck general blood work every 6 months, ultrasound once per year, and bile acids test every 1-2 years based on other results. If the ALP continues to climb a biopsy could be considered.
- Consider long term use of Denamarin, and monitoring for the signs of Cushing's developing.
- A primary vacuolar hepatopathy can be breed related and is seen in Scottish Terriers, Schnauzers, Cocker spaniels etc.

WEIGHT

70 lbs

INTERPRETED BY

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

IMAGING PERFORMED BY

Dr. Mengine

HOSPITAL NAME

Stoney Creek VH

REFERRING VET

Dr. Mengine

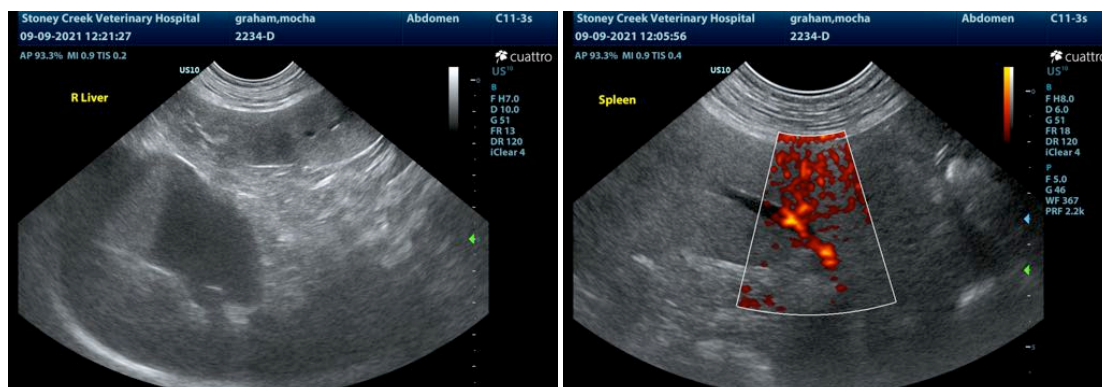
INVOICE

91742

DATE

9/9/21

Provided this patient's blood pressure is normal and liver function is normal it is likely okay for surgery although if Cushing's is present there may be an increased risk for thromboembolism and slower healing and it may be exacerbating panting leading to more obvious symptoms.





PATIENT

Mocha Graham

SPECIES

Canine

BREED

Mix

SEX

Spayed Female

AGE

11 years

WEIGHT

70 lbs

INTERPRETED BY

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

IMAGING PERFORMED BY

Dr. Mengine

HOSPITAL NAME

Stoney Creek VH

REFERRING VET

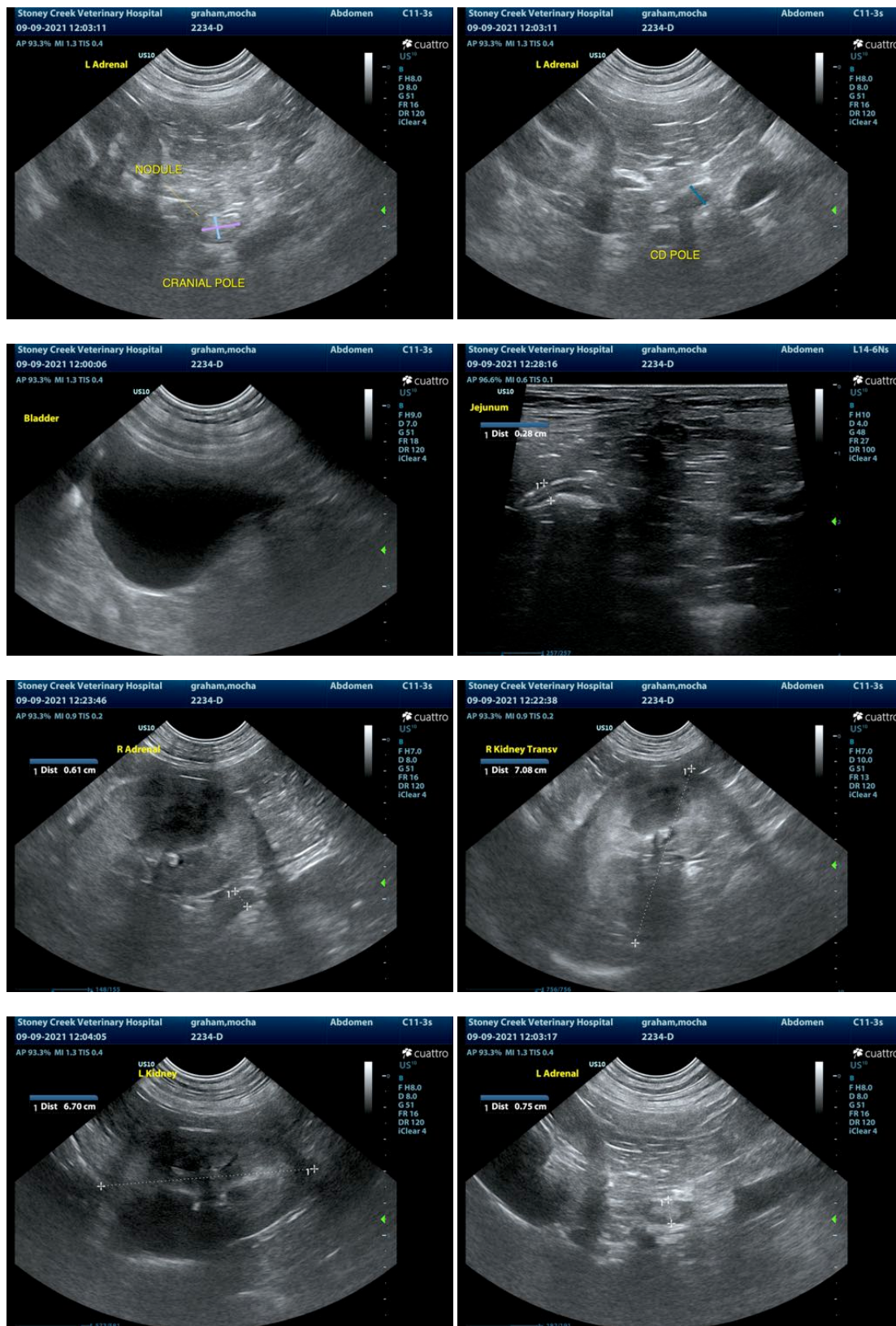
Dr. Mengine

INVOICE

91742

DATE

9/9/21



The information and recommendations provided are based on the images presented by the referring



PATIENT

Mocha Graham

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.

SPECIES

Canine

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

BREED

Mix

SEX

Spayed Female

AGE

11 years

WEIGHT

70 lbs

INTERPRETED BY

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

**IMAGING
PERFORMED BY**

Dr. Mengine

HOSPITAL NAME

Stoney Creek VH

REFERRING VET

Dr. Mengine

INVOICE

91742

DATE

9/9/21