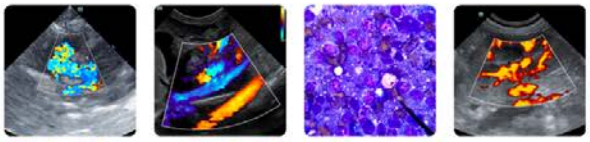


PATIENT

Liam Brunner

SPECIES

Canine

BREED

Shetland Sheepdog

SEX

Neutered Male

AGE

9

WEIGHT

82.8

INTERPRETED BY

Greg Kuhlman, DVM, DACVIM (SAIM)

IMAGING PERFORMED BY

Dr. Hougentogler

HOSPITAL NAME

K-Vet Animal Care

REFERRING VET

Dr. Hougentogler

INVOICE

73128

DATE

2/20/26

PRESENTING CLINICAL SIGNS

Liver; adrenals; kidneys; bladder. Patient has long history of anxiety, osteoarthritis, and proteinuria; on recent lab screens, found mild anemia, increased kidney values, low Na/K, low T4, and low baseline cortisol. Obese (9/9); marked dental calculus and halitosis; stiffness and crepitus in hips and stifles bilateral. Weight 82.8 pounds/ BodyScore9 9 – Obese. Temp 102.9. Pulse 160. Resp panting. Muc Memb Pink/Healthy. Tongue is purple color. CRT <2 sec. Alert BAR

Abnormal PE/Chem/CBC/UA Results: HCT - 37.7%, SDMA - 15, Crea - 1.7, BUN - 75, Phos - 8.1, K - 7.0, Na:K - 20, ALP - 321, Cortisol - 1.7, T4 - 0.6.; ACTH stim test is pending Patient is on Cerenia as needed for intermittent stomach upset, Telmisartan for proteinuria, Alprazolam for anxiety, and Rimadyl and Gabapentin for osteoarthritis; Patient had been doing well, but has been having more mobility issues over last 4-6 months Anything seen that would explain weakness? Hepatopathy; neoplasia; Addisons disease?

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The bladder is moderately distended with anechoic urine. No uroliths are seen. The bladder wall is normal in appearance and thickness. No masses are seen.

The right kidney has moderate loss of corticomedullary distinction, and mild irregular shape at the caudal pole. It measures 3.4 cm.

The left kidney has a moderately irregular shape with moderate to marked loss of corticomedullary distinction. It measures 4.1 cm. There is also mild renal pelvic dilation that measures 5.8 mm x 3.4 mm.

Adrenal Glands

The caudal pole of the right adrenal gland presents normal shape and homogenous parenchyma, measuring 5.9 mm. There is a mass lesion at the cranial pole that measures 15.7 mm.

The left adrenal gland presents normal shape and homogenous parenchyma. The phrenic vasculature is unremarkable. The cranial pole measures 6.8 mm and the caudal pole measures 6.6 mm.

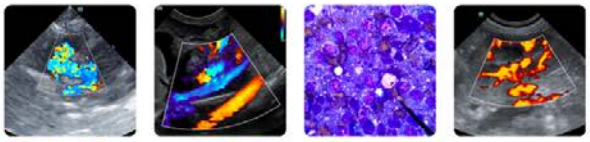
Spleen

Within the head of the spleen there is a hypoechoic lesion that measures 2.76 cm in diameter. This lesion is non-capsule displacing and is most likely benign extramedullary hematopoiesis. The remainder of the spleen has normal echotexture and size.

Liver

The liver is mildly enlarged with rounded margins and has an overall diffuse hyperechoic echotexture. Diffusely throughout the liver there are hypoechoic non-capsule displacing ill-defined lesions present. A representative lesion measured 3.86 cm in diameter.

The gallbladder presents normal size with anechoic contents. Normal gallbladder wall. No evidence of bile duct distention or obstruction.



PATIENT

Liam Brunner

SPECIES

Canine

BREED

Shetland Sheepdog

SEX

Neutered Male

AGE

9

WEIGHT

82.8

INTERPRETED BY

Greg Kuhlman, DVM, DACVIM (SAIM)

IMAGING PERFORMED BY

Dr. Hougentogler

HOSPITAL NAME

K-Vet Animal Care

REFERRING VET

Dr. Hougentogler

INVOICE

73128

DATE

2/20/26

Gastrointestinal

The stomach and intestines have normal wall layering and thickness. Colon contains normal contents with normal wall thickness.

Pancreas

The visible pancreas is normal in size with normal echogenic parenchyma and surrounded by normal peri-pancreatic mesentery.

Free Abdomen

There are no enlarged abdominal lymph nodes seen on this exam. No free abdominal fluid is seen.

ULTRASONOGRAPHIC FINDINGS

- Bilateral chronic kidney disease corroborated by patient's lab work.
- Mass at the cranial pole of the right adrenal gland.
- Hypoechoic splenic lesion.
- Enlarged liver with hypoechoic nodules throughout – These nodules are most likely benign regenerative nodules or less likely round cell neoplasia such as lymphoma or mast cell, or less likely primary hepatobiliary neoplasia such as hepatocellular carcinoma.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Recommend full International Renal Interest Society staging, monitoring and managing. It is possible the patient's chronic kidney disease is the cause of their reported clinical signs. Recommend checking a systemic blood pressure to determine if the patient may be hypertensive due to the kidney disease. Hypertension would be another potential cause of the patient's reported clinical signs.

The mass at the cranial pole of the right adrenal gland may be an incidental finding and not clinically significant. However, if the patient is hypertensive, then recommend submitting a urine metanephrine test to screen the patient for possible pheochromocytoma. A pheochromocytoma could potential explain the patient's clinical signs as well.

If functional adrenal disease is ruled out, recommend rechecking the right-sided adrenal mass every 3-6 months via ultrasound to determine if it is increasing in size. If the mass appears to be increasing in size, then consider referral to a veterinary surgeon to discuss right-sided adrenalectomy.

Recommend fine needle aspirate of the splenic lesion and submission for cytology to rule out the possibility of round cell neoplasia as a cause for this lesion.

Recommend an ultrasound guided fine needle aspirate of one of the liver lesions and submission for cytology to rule out a neoplastic cause for their presence.

PATIENT

Liam Brunner

SPECIES

Canine

BREED

Shetland Sheepdog

SEX

Neutered Male

AGE

9

WEIGHT

82.8

INTERPRETED BY

Greg Kuhlman, DVM, DACVIM (SAIM)

IMAGING PERFORMED BY

Dr. Hougentogler

HOSPITAL NAME

K-Vet Animal Care

REFERRING VET

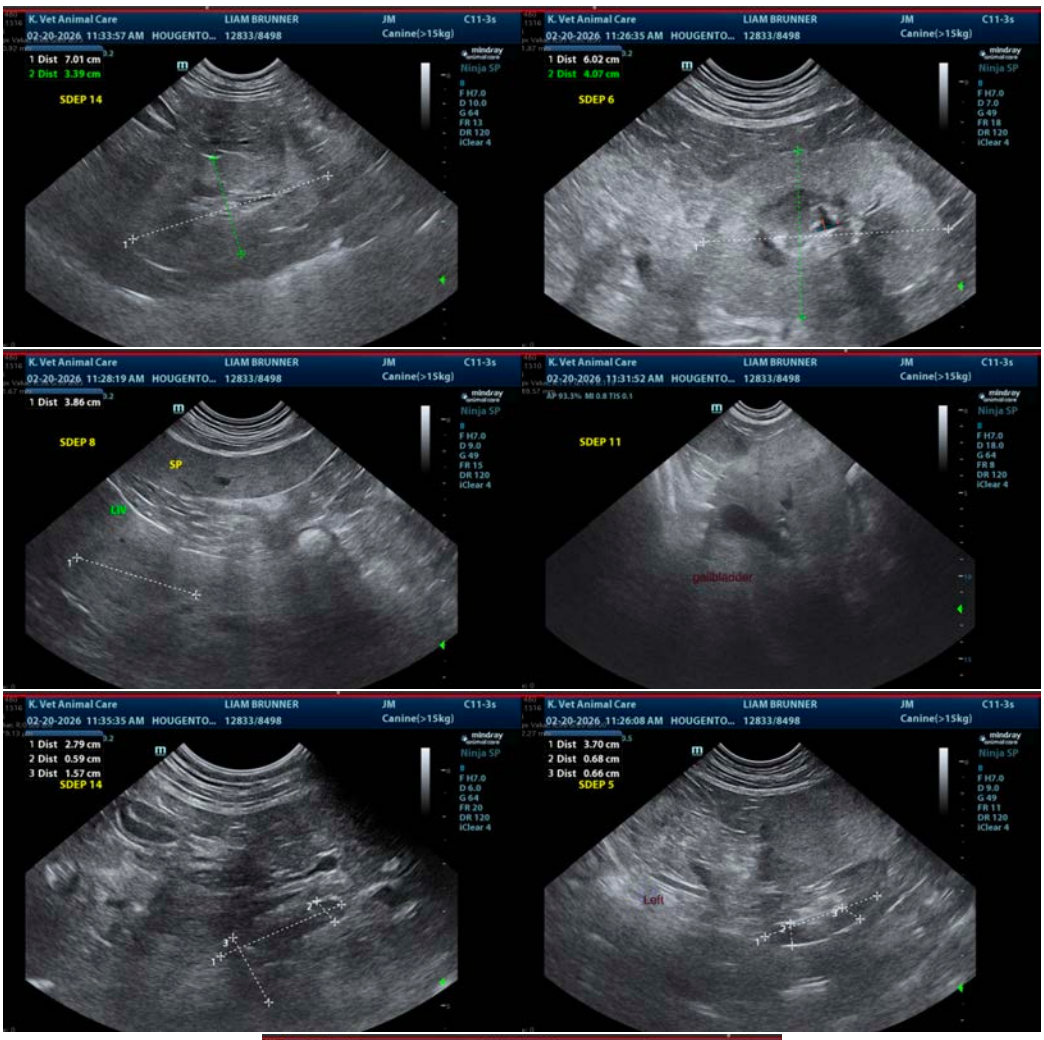
Dr. Hougentogler

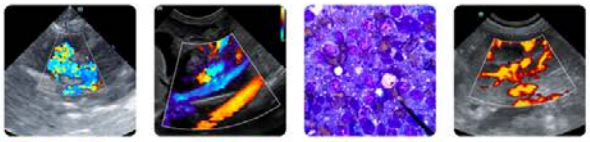
INVOICE

73128

DATE

2/20/26





PATIENT

Liam Brunner

SPECIES

Canine

BREED

Shetland Sheepdog

SEX

Neutered Male

AGE

9

WEIGHT

82.8

INTERPRETED BY

Greg Kuhlman, DVM, DACVIM (SAIM)

IMAGING PERFORMED BY

Dr. Hougentogler

HOSPITAL NAME

K-Vet Animal Care

REFERRING VET

Dr. Hougentogler

INVOICE

73128

DATE

2/20/26

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.

Greg Kuhlman, DVM, DACVIM (SAIM)

Veterinary Internal Medicine Specialist
info@SonoPath.com