



PATIENT

Harlee Cruz

SPECIES

Canine

BREED

Mixed

SEX

Spayed Female

AGE

9 Years

WEIGHT

17.8 lbs

INTERPRETED BY

Dr Brittany Sinclair,
BVSc(hons),
DACVECC

IMAGING PERFORMED BY

Gabriel Ferrer, DVM

HOSPITAL NAME

Pulse: Pet Ultrasound

REFERRING VET

Dr. Mario Roman

INVOICE

75737

DATE

6/5/26

PRESENTING CLINICAL SIGNS

Px presented as a referral for a double study (abdominal ultrasound and echocardiogram) due to excessive panting and bloodwork showing elevated hepatic enzymes. Owner reports that Px has been panting like this for years. Radiographs were performed showing hepatomegaly, a large amount of air trapped in the stomach, possible pleural effusion, and tracheal collapse. rDVM started Px on a trial course of Furosemide and Amoxi/Clav.

Abnormal PE/Chem/CBC/UA Results: rDVM record and Radiographs attached below for your reference.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder, trigone, and visible pelvic urethra were of normal thickness. The ureters were not visible which is normal. There was normal wall layering with no masses, uroliths or abnormal thickening visualized. Urine was anechoic. No evidence of inflammatory or neoplastic changes were noted.

The kidneys were both normal size and structure, with smooth capsule and normal corticomedullary definition and ratio. Medullary structure differed distinctly from that of the cortex. No evidence of pelvic dilation was present. Hyperechoic, shadowing foci present in renal parenchyma and calyces consistent with nephrocalcinosis. Left kidney measures 4.15 cm. Right kidney measures 4.22 cm.

Adrenal Glands

Both adrenal glands were visualized and recognized as having normal shape, size, position and echogenicity for this breed and age. The visible phrenic vasculature was unremarkable. Right measures 1.52 cm in length x 0.48 cm at the caudal pole and 0.39 cm at the cranial pole. Left measures 1.65 cm in length x 0.63 cm at the caudal pole and 0.50 cm at the cranial pole.

Spleen

The spleen was normal with age appropriate homogeneous parenchyma and a smooth capsule with normal splenic vasculature with no signs of congestion or thrombosis. No sonographic evidence of acute or chronic inflammatory, neoplastic, or infarct changes were noted.

Liver

The liver is subjectively enlarged with slightly rounded borders. Parenchyma is homogeneous with an age appropriate echogenicity.

The gall bladder is moderately distended with anechoic fluid, with hyperechoic non-shadowing gravity dependent debris present. There is no surrounding free fluid or signs of active inflammation.

Gastrointestinal

The stomach contains minimal luminal contents. It measures at a normal thickness of with some variability due to the presence of rugal folds. The distinction of the gastric wall layers is adequate. 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



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layering maintaining the typical 1:3 muscularis:mucosa layer ratio. 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 visible pancreas was observed to be largely isoechoic to surrounding omental fat.

Free Abdomen

No clinically significant lymphadenopathy or abnormalities noted. No free fluid noted.

ULTRASONOGRAPHIC FINDINGS

- Hepatomegaly.
- Mild gallbladder debris.
- Mild nephrocalcinosis.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Aside from mild hepatomegaly, the liver parenchyma appears normal and there is no ultrasonographic explanation for the elevated liver enzymes in this patient. There is no significant disruption of architecture noted to suggest significant pathology. Low grade inflammatory hepatopathy/reactive hepatopathy is a likely cause of LE elevations. Fine needle aspirate was appropriate, and bile acid profile could be considered to assess liver function. Ultimately liver biopsy is often required for more definitive diagnosis. Empiric treatments (SAM-E, milk thistle, Vitamin E, ursodiol if bilirubin elevated or gall bladder sludge) could be tried and liver enzymes re-evaluated, especially if liver FNA does not show significant pathology before more invasive liver sampling is pursued.

Induction phenomena are the most common cause for an elevation in 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 cushings disease are present, recommend endocrine function testing to evaluate for cushing's disease.

- Consider fine needle aspirate to rule out round cell neoplasia.

- 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 should be considered.

- Consider long term use of denamarin, and monitoring for the signs of cushings developing.



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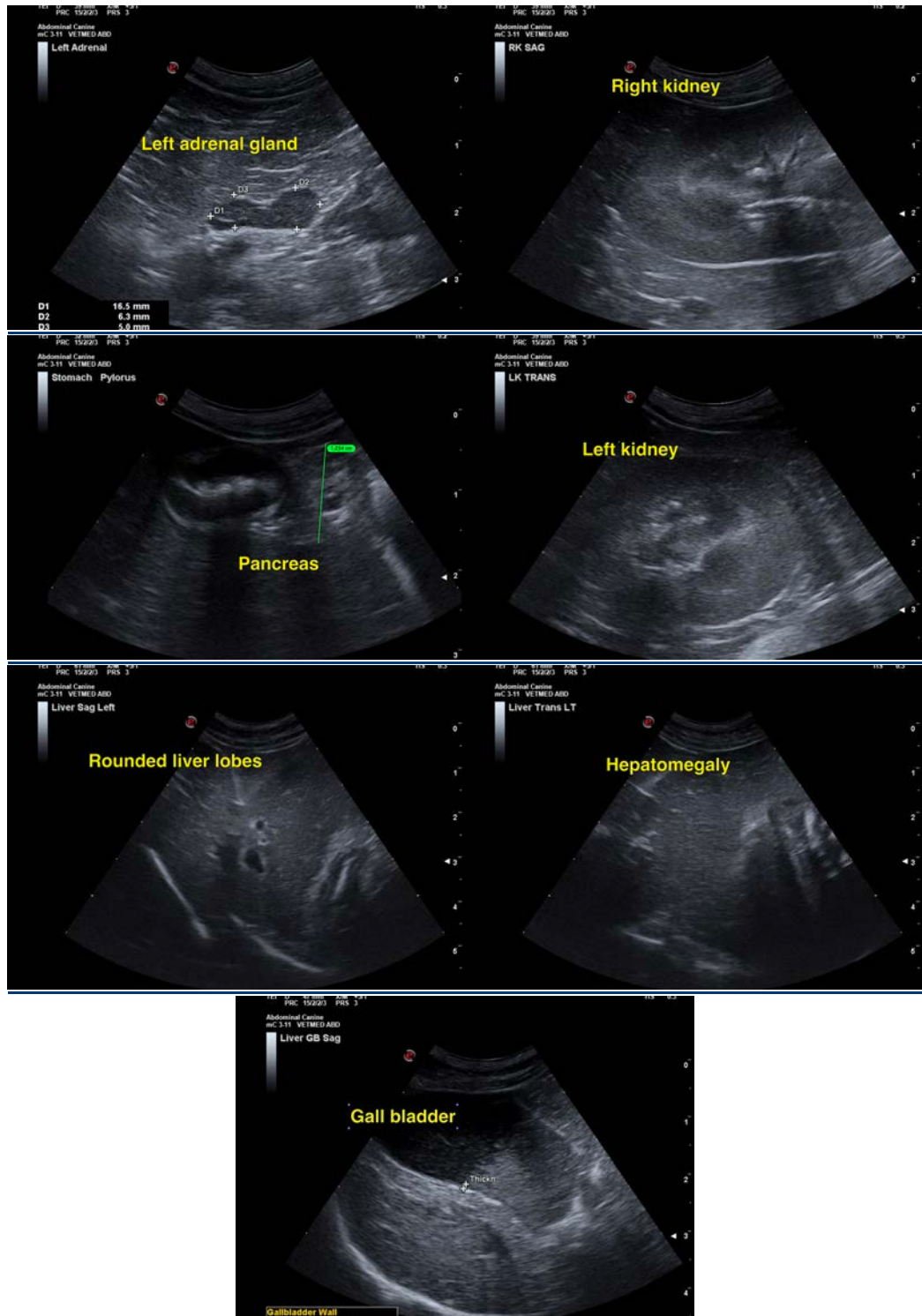
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Dr Brittany Sinclair, BVSc(hons), DACVECC

info@SonoPath.com