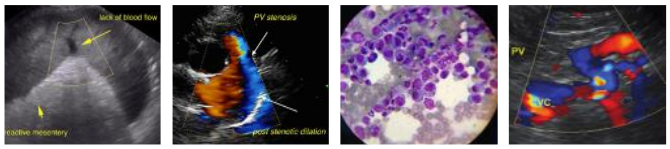
SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT

Zoe Welter

SPECIES

Canine

BREED

Poodle Mix

SEX

Spayed Female

AGE

13 Years

WEIGHT

19.6

INTERPRETED BY

Dr Brittany Sinclair, BVSc(hons), DACVECC

IMAGING PERFORMED BY

Samantha Gans

HOSPITAL NAME

Scottsdale VC

REFERRING VET

Samantha Gans

INVOICE

22062

DATE

4/17/23

PRESENTING CLINICAL SIGNS

History: diagnosed with enlarged liver - went back to DVM on Friday and did bloodwork (raised gallbladder levels) - pancreatitis lab done today and it was borderline - DVM suspects cushings - rapid breathing started last Saturday night - vomiting after drinking water today (4/16/23) - no interest in food today (4/16/23) - soft stools today (4/16/23) 2. Eating/Drinking? Inappetence. vomiting up water 3. Diet: Hill's c/d started Pimobenden on Friday - Gabapentin for a week - started Apoquel on Friday - Carprofen 1/4 tab 75mg - Trazodone at night started on Wednesday - Omeprazole started on Friday - probiotics - hepagen has been hospitalized with TSVC on fluids

Abnormal PE/Chem/CBC/UA Results: 1) Gas-distended stomach 2) Vomiting started yesterday, can't keep water down 3) anorexia over the last 24 hours 4) tachypnea for about 1 week: saw 3 vets this week before transferring 5) Elevated ALP and Cholesterol on bloodwork 6) historical 4/6 heart murmur 7) Borderline abnormal pancreatitis test at Tempe Lake 8) Historical intermittent coughing 9) Diarrhea started in the hospital

* 18 still images and 3 video clips provided – one of right liver and gall bladder and one each of right and left kidneys.

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 have a smooth capsule and with mild hazing of corticomedullary definition. No evidence of pelvic dilation was present. Small spherical anechoic fluid accumulations consistent with cortical cysts in left renal cortex. The right kidney measured 5.25 cm. The left kidney measured 5.13 cm.

Adrenal Glands

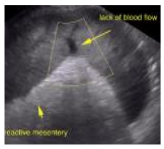
Caudal pole of the left adrenal gland and entire right adrenal gland were visualized and recognized. Both were enlarged and the right adrenal gland was hypoechoic. The phrenic vasculature, glandular echogenicity and detail were unremarkable. The left adrenal gland measured 0.9 cm at the caudal pole. The right adrenal gland measured 1.2 cm at the caudal pole.

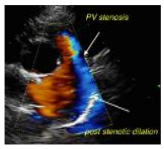
Spleen

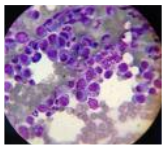
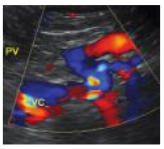
The spleen was normal with a smooth homogeneous parenchyma hyperechoic to liver and renal cortical parenchyma and smooth capsule, with normal splenic vasculature with no signs of congestion or thrombosis. No sonographic evidence of acute or chronic inflammatory, neoplastic, or infarct changes were noted.

Liver

The liver is subjectively normal in size with normal contours and structure. There is appropriate echogenicity and echotexture. No overt structural evidence of inflammatory, infiltrative or regenerative pathology is evident. Vascular and biliary tracts are of normal volume with no evidence of congestion. No pathological hepatic lymphadenopathy observed. Gallbladder is moderately distended





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with normal wall thickness and anechoic contents. Common bile duct is non-distended and tapers normally.

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 and there is no impression of reduced peristaltic activity. No masses or focal lesions were observed.

The visualized areas of duodenum, jejunum 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. There were no focal lesions consistent with obstruction or a mass effect observed.

Sections of colon are visualized with gas shadowing distally. There is no observed focal or generalized colon wall thickening or loss of layering.

Pancreas

The pancreas is not distinctly visualized in provided stills or video clips.

Lymph Nodes

No clinically significant lymphadenopathy or abnormalities noted.

Free Abdomen

No masses or free fluid noted.

ULTRASONOGRAPHIC FINDINGS

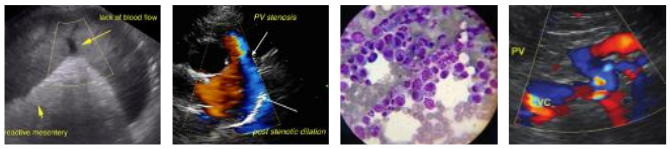
- Bilateral adrenomegaly
- Left renal cortical cyst
- Normal liver and gall bladder

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Thoracic radiographs are warranted to further investigate tachypnea given chronic cough and heart murmur.

There is no ultrasonographically evident cause of reported GI signs in this abdominal study. GI tract are within normal limits. Consideration for dietary indiscretion, food sensitivity/allergy or mild inflammatory bowel disease is reasonable. Pancreatitis cannot be completely ruled out. Empiric treatment for GI signs including anti-nausea, appetite stimulant and fluid support as clinically indicated is warranted. A diet trial with hydrolyzed protein or select protein diet could be considered if food sensitivity is suspected clinically. If signs are persistent or recurrent, additional diagnostics to be considered include GI panel (TLI/PLI/cobalamin/folate), baseline cortisol +/- ACTH stimulation test, fecal pathogen panel, thyroid testing, bile acid profile, and thoracic radiographs to rule out occult neoplasia, cardiac disease and esophageal disease as potential causes. Ultimately GI biopsy may be required for more definitive diagnosis if the patient is not responsive to medical treatment.

The liver parenchyma and gall bladder appear 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 or cholangiohepatitis is a likely cause of LE elevations. Fine needle aspirate is recommended to further characterize parenchymal changes and bile acid profile to assess liver function. Ultimately liver biopsy



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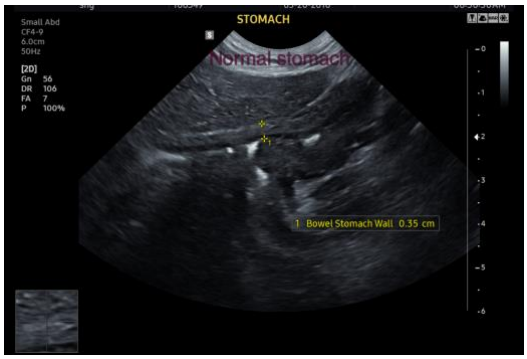
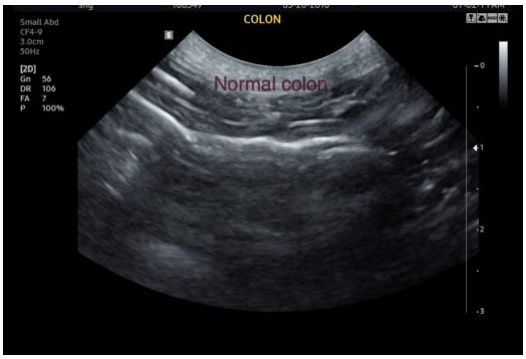
is often required for more definitive diagnosis. Empiric treatments (SAM-E, milk thistle, Vitamin E, ursodiol if bilirubin elevated) could be tried and liver enzymes re-evaluated, especially if liver FNA does not show significant pathology before more invasive liver sampling is pursued. If liver supportive medications do not improve liver enzymes, a course of empiric antibiotics (clavamox, enrofloxacin) could be considered to cover for infectious cholangiohepatitis, though the lack of surrounding inflammation makes this less likely.

Adrenomegaly is bilateral and is suspected to be secondary to hormonal stimulation as is seen with pituitary dependent hyperadrenocorticism. If corresponding clinical signs are present, testing for hyperadrenocorticism should be considered (ACTH stimulation test vs LDDST) when patient is feeling well.

Renal changes are likely age related degeneration. Correlate clinical significance with blood work/urinalysis findings and clinical signs.





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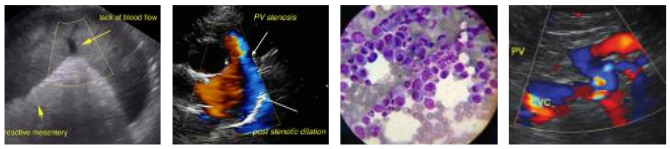

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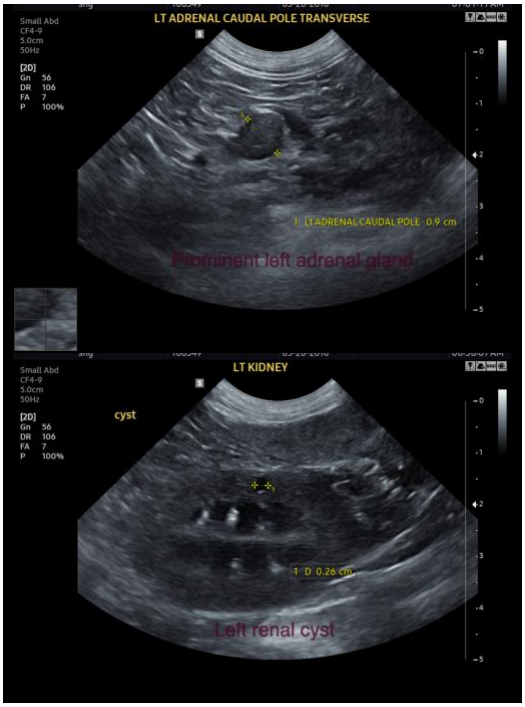

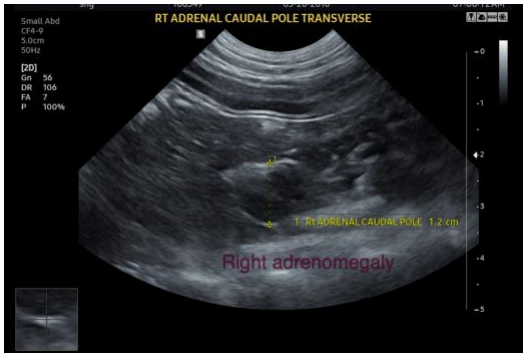

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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
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