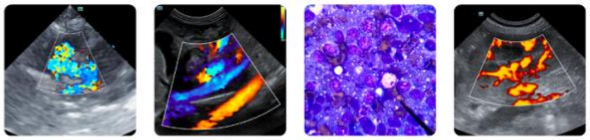


PATIENT

Baby Blue Valentin

SPECIES

Canine

BREED

Mixed

SEX

Neutered Male

AGE

10 Years

WEIGHT

57.6 pounds

INTERPRETED BY

Dr Brittany Sinclair, BVSc(hons), DACVECC

IMAGING PERFORMED BY

Dr. Gabriel Ferrer DVM

HOSPITAL NAME

Pulse Pet Ultrasound Services

REFERRING VET

Dra. Marilyn Davila

INVOICE

14359

DATE

03/16/26

PRESENTING CLINICAL SIGNS

- Px presented as a referral for an abdominal ultrasound due to continuous elevation of hepatic enzymes
- Px originally visited rDVM 3 weeks ago for a prophylactic dental cleaning but the lab work showed an elevation in ALKP and ALT so PX started on Denamarin
- In the follow up appointment the liver values almost doubled from >2,000 to >4,000
- No vomiting, no diarrhea, no coughing
- Px is appetent and drinking water as per usual, according to owner

Abnormal PE/Chem/CBC/UA Results: Bloodwork 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 right kidney has a smooth capsule and with mild hazing of corticomedullary definition. No evidence of pelvic dilation was present. The right kidney measured 6.66 cm in length. Hyperechoic, shadowing foci present in renal parenchyma and calyces consistent with nephrocalcinosis.

The left kidney has a smooth capsule and with mild hazing of corticomedullary definition. The left kidney measured 6.77 cm in length. Hyperechoic, shadowing foci present in renal parenchyma and calyces consistent with nephrocalcinosis. Spherical anechoic fluid accumulation consistent with cortical cyst.

Adrenal Glands

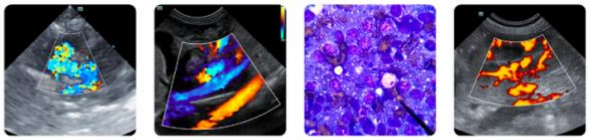
The right adrenal gland was visualized and recognized as having normal shape, size, position and echogenicity for this breed and age. The visible phrenic vasculature was unremarkable. The right adrenal gland measured 2.44 cm in length and 0.51 cm at the caudal pole and 0.48 cm at the cranial pole.

The left adrenal gland is normal in shape and position. The caudal pole is rounded, enlarged, and somewhat heterogeneous, most consistent with a developing mass or nodule. Visible frontal vasculature is unremarkable. The left adrenal gland measured 2.54 cm in length and 0.85 cm at the caudal pole and 0.55 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



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The liver is subjectively normal in size with normal contours and structure. There is age-appropriate echogenicity and echotexture. No overt structural evidence of inflammatory, infiltrative or regenerative pathology is evident. There are small focal areas of hyperechoic shadowing within the biliary tracts consistent with non-obstructive intrahepatic biliary mineralization.

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. There are two small structures which appear partially shadowing in some images, one measuring 0.3 cm and one measuring 0.2 cm, suspected to represent very small non-obstructive choleoliths.

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 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 not visualized. 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.

Lymph Nodes

No clinically significant lymphadenopathy or abnormalities noted.

Free Abdomen

No masses or free fluid were noted.

ULTRASONOGRAPHIC FINDINGS

- Very mild gallbladder debris with small nonobstructive choleoliths.
- Mild intrahepatic biliary mineralization.
- Enlarged caudal pole of the left adrenal gland- likely developing mass or nodule.
- Degenerative changes with nephrocalcinosis.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The presence of choleoliths and intrahepatic biliary mineralization is the likely contributing to the liver value elevations. Choleoliths are often an incidental finding. Their presence can cause inflammation and may cause subclinical or clinical cholangitis which can cause elevations in liver values. GI signs of inappetence or vomiting may be seen as their presence can cause intermittent abdominal pain and nausea. Their presence may act as a nidus of infection and predispose to cholangiohepatitis. They have the potential to move into the common bile duct causing obstructive cholangitis. Abdominal

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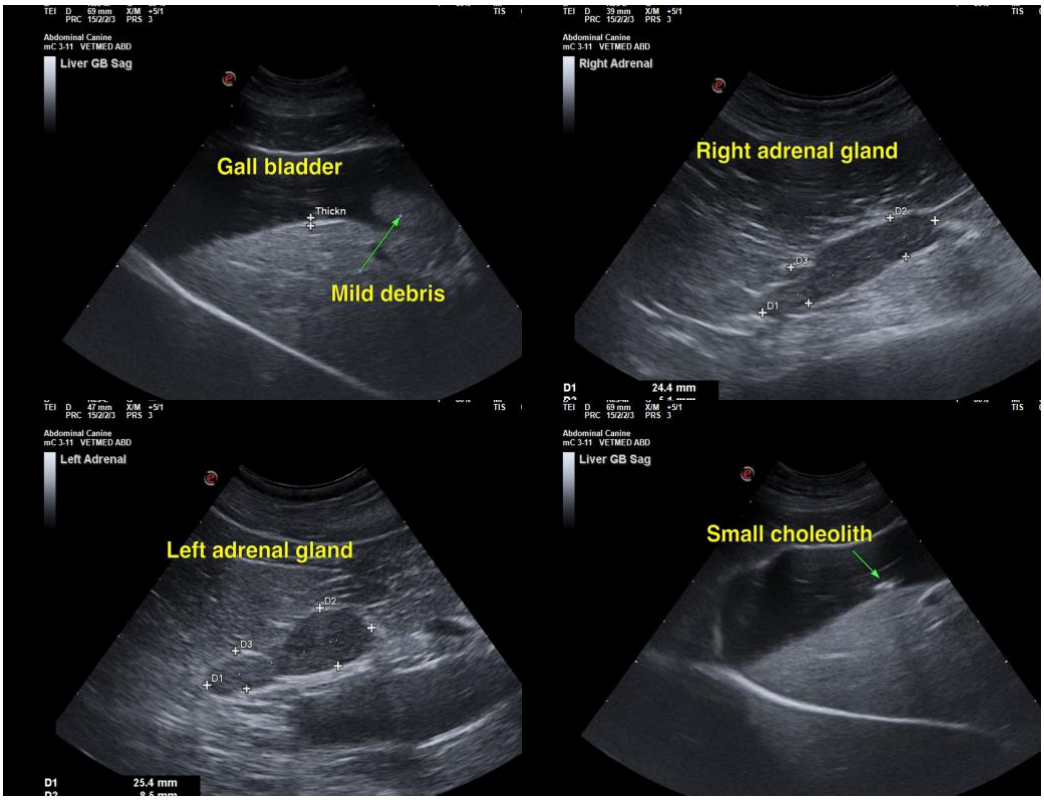
radiographs may be of use to further visualize choleoliths. Ursodiol could be considered as this may help dissolve choleoliths.

Empiric antibiotic therapy is not unreasonable and antibiotics that are effective against gram-negative, aerobic, enteric bacteria and excreted into the bile are recommended. Amoxicillin, amoxicillin-clavulanic acid, cephalosporins, and fluoroquinolones are suggested first choices. Metronidazole (7.5 mg/kg PO, IV q 12 hrs) may be added for extra anaerobe coverage. Consider treatment with liver supportive medications (SAM-E, milk thistle, Vitamin E, ursodiol) and GI support as needed.

Left caudal pole changes are most consistent with an early adrenal mass which may be malignant or benign. It appears subjectively resectable with capsular expansion without obvious capsular escape or vascular invasion. Pre-surgical abdominal CT for surgical planning and thoracic CT for metastasis screen is recommended. Differentials owing to sonographic architecture and clinical history include carcinoma, pheochromocytoma, adenoma, hyperplasia, cortisol secreting tumor, myelolipoma less likely. Adrenal gland function testing (ACTH stimulation test and/or LDDST and urine metanephrine screen) should be considered to further evaluate functionality. I recommend urine catecholamine screen for pheochromocytoma detection if surgical removal is pursued as pre-surgical treatment of pheochromocytoma is essential. It is possible to have both cortisol and catecholamine secretion from the same adrenal tumor so presence of hypercortisolemia does not obviate the need for presurgical urine metanephrine screening. Serial ultrasound in evaluations (every 2-3 months) for progression could alternatively be considered. Hypercortisolemia may be contributing to elevated ALKP.



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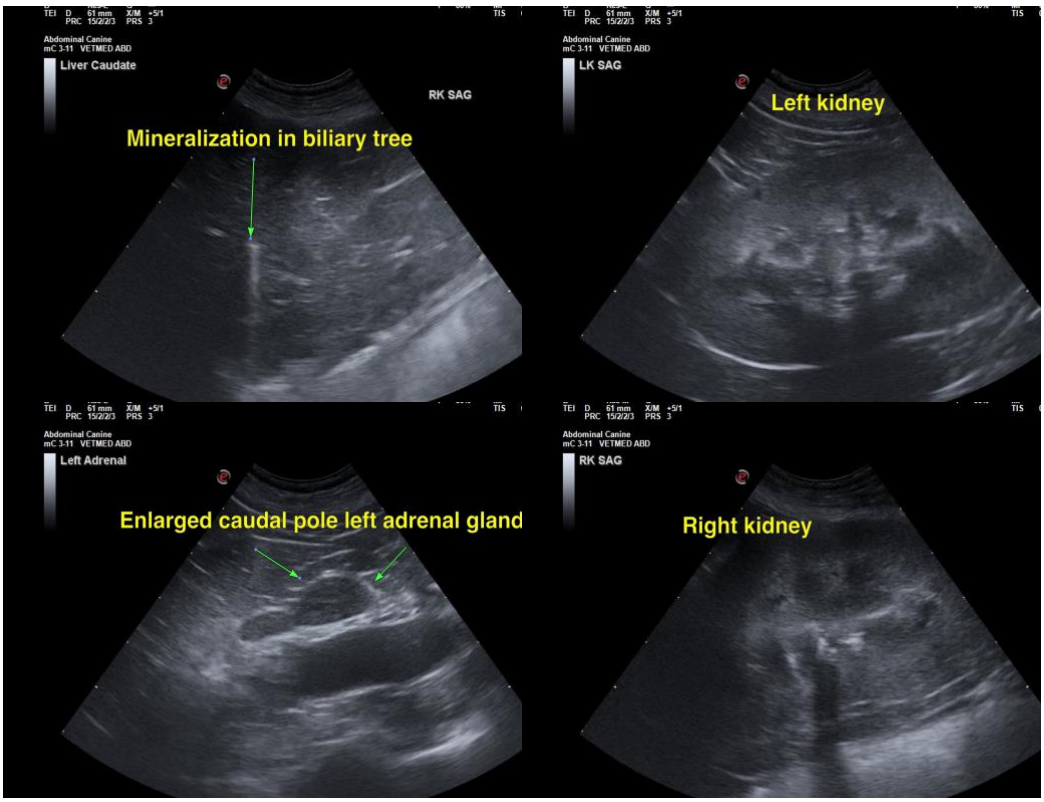

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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