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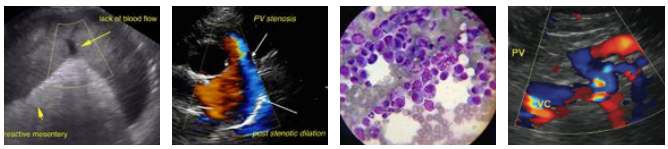
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



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

PATIENT
Dottie Kessler

SPECIES
Canine

BREED
Chihuahua

SEX
Spayed female

AGE
8 years

WEIGHT
4.6 lbs

INTERPRETED BY
Dr Brittany Sinclair, BVSc(hons), DACVECC

IMAGING PERFORMED BY
Dr. Cerf

HOSPITAL NAME
Veterinary Center of Hardyston

REFERRING VET
Dr. Cerf

INVOICE
43257

DATE
3/13/23

PRESENTING CLINICAL SIGNS

History: P came in January for Annual- did BW and liver values came back abnormal.
Abnormal PE/Chem/CBC/UA Results: TP 8.4 Alb 2.2 Glob 6.2 Alb/Glob Ratio 0.4 Chlo 92 Urine Protein +1 SG 1058

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 hazing of corticomedullary definition to the point of inability to determine cortical/medullary ratio. Pinpoint areas of cortical mineralization. No evidence of pelvic dilation was present. The left kidney measured 3.2 cm and the right kidney measured 2.4 cm.

Adrenal Glands

Left adrenal gland was visualized and recognized as having normal shape, size, position and echogenicity for this breed. The phrenic vasculature, glandular echogenicity and detail were unremarkable. Capsule, cortex, and medullary definition were normal for this age patient. The right adrenal gland was not definitively visualized. The left adrenal gland measured 1.23 cm in length 0.26 cm at the caudal pole and 0.27 cm at the cranial 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.

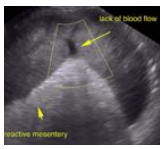
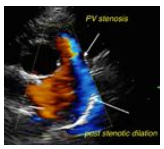
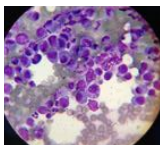
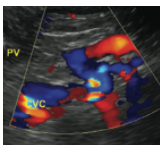
Liver

The liver is subjectively normal in size with normal contours and structure. The parenchyma is slightly heterogenous with a coarse appearance. Vascular and biliary tracts are of normal volume with no evidence of congestion. No pathological hepatic lymphadenopathy observed.

The gall bladder is moderately distended with anechoic fluid and hyperechoic shadowing gravity dependent debris present. Suspended shadowing debris is also present and hyperechoic shadowing in the non-gravity dependent gall bladder wall. This is most consistent with cholelithiasis and mineralization of the gall bladder wall. 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 and there is no impression of reduced peristaltic activity. No masses or focal lesions were observed. The

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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. Visualized peristalsis appears appropriate. 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 base and limbs of the pancreas were observed to be largely isoechoic to surrounding omental fat. Pancreatic duct and capsular contour and parenchyma were normal. No overt evidence of active inflammatory or neoplastic disease was noted.

Lymph Nodes

No clinically significant lymphadenopathy or abnormalities noted.

Free Abdomen

No masses or free fluid were noted.

ULTRASONOGRAPHIC FINDINGS

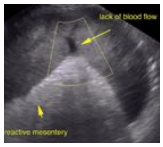
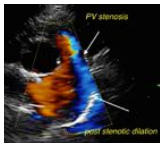
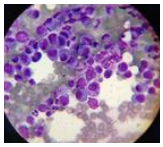
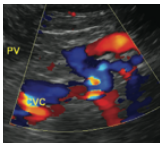
Primary Findings

1. Choleliths, gall bladder wall mineralization or embedded choleliths
2. Coarse liver
3. Degenerative renal changes with cortical mineralization

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The presence of choleliths is the likely explanation of reported liver value elevations (though no liver values were listed as elevated in reported abnormal chemistry findings). Choleliths 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 radiographs may be of use to further visualize choleliths.

Mild hypocholesterolemia and hypoalbuminemia may reflect decreased liver function and bile acid profile would be of use to further investigate. Hypoadrenocorticism can also cause these bloodwork abnormalities and baseline cortisol +/- ACTH stimulation test should be considered. Protein losing enteropathy is another differential, but is considered less likely as GI signs are not reported and GI tract is visually normal. Ultimately GI biopsies may be required to definitively rule this out. Liver parenchymal changes are a common benign age related change, but infiltrative disease (lymphoma, MCT, other) cannot be definitively ruled out. No significant disruption of architecture noted to suggest significant

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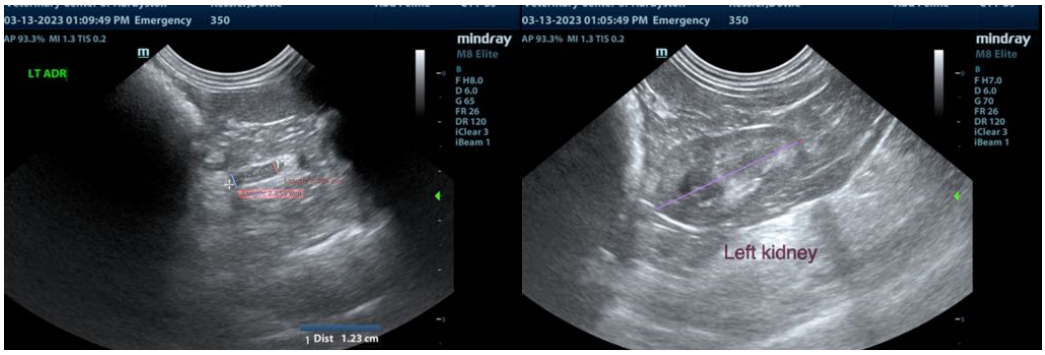
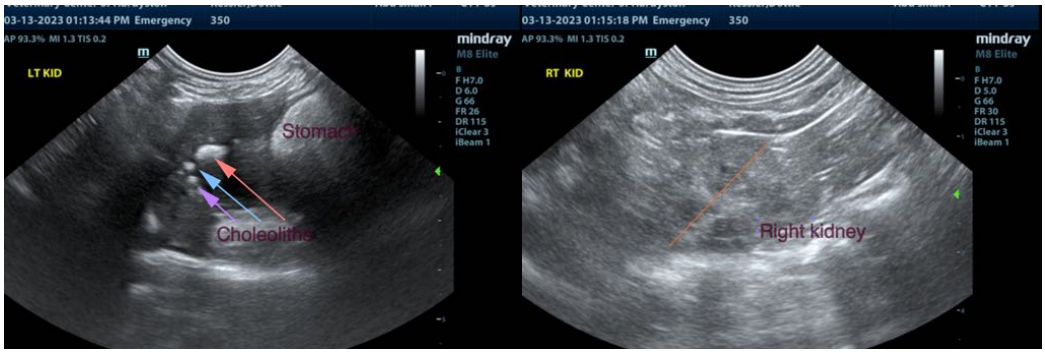
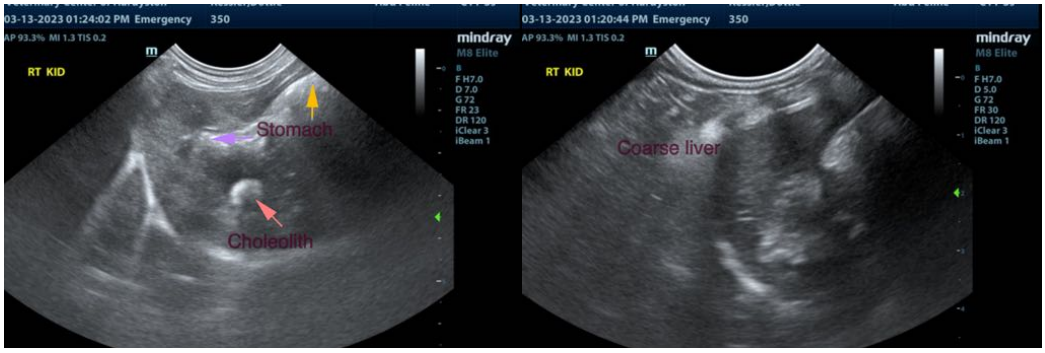
pathology. Fine needle aspirate could be considered to further characterize parenchymal changes if clinically indicated, especially if any weight loss is noted or for baseline cytological assessment.
Renal changes are likely age related degeneration. PLN is considered unlikely given mild proteinuria and well concentrated urine indicating adequate function, but serial UPC's are needed to further clarify the persistence and significance of proteinuria.







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.

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