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Clinical Sonography & Telecytology
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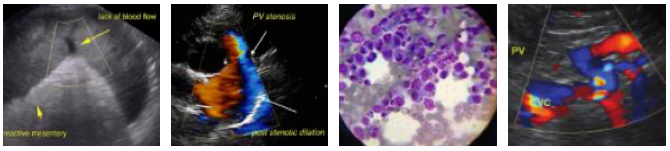


PATIENT
Babi Anazagasti

SPECIES
Canine

BREED
Mixed breed

SEX
Female, spayed

AGE
10 Yrs.

WEIGHT
29.8 lbs.

INTERPRETED BY
Andrea Nicastro, DVM, Diplomate ACVIM (*Small Animal Internal Medicine*)

IMAGING PERFORMED BY
Dr. Ferrer

HOSPITAL NAME
Paseos VC

REFERRING VET
Dr. Cruz

INVOICE
15159

DATE
8/1/23

PRESENTING CLINICAL SIGNS

History: The patient presented as a referral for an abdominal ultrasound to evaluate increased liver enzymes. ALT (533). Pt has been on Denamarin Adv.
Abnormal PE/Chem/CBC/UA Results: FNA: Liver was done and it is pending. CBC WBC: 4.69 (5.05-16.76) LYM: 0.6 (1.05-5.10) PLT: 124 (148-484) MPV: 14.5 (8.7-13.2) CHEM ALT: 533 (10-25) ALP: 634 (23-212) CHOL: 360 (110-320)

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder wall is normal in thickness and the mucosal surface in the region of the apex is slightly irregular. The bladder is moderately distended. Luminal contents are anechoic. No cystic calculi are observed. The region of the trigone and the visible portion of the proximal urethra are normal.

The left kidney is normal size (5.86 cm in length); normal shape and architecture with smooth peripheral margins. The cortex is isoechoic relative to the spleen. A thin ill-defined hyperechoic medullary band is observed at the corticomedullary junction. There is a normal 1:3 cortex to medulla ratio with mild to moderate loss of corticomedullary distinction. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter.

The right kidney is normal size (6.16 cm in length); normal shape and architecture with smooth peripheral margins. The cortex is isoechoic relative to the spleen. A thin ill-defined hyperechoic medullary band is observed at the corticomedullary junction. There is a normal 1:3 cortex to medulla ratio with mild to moderate loss of corticomedullary distinction. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter.

Adrenal Glands

The left adrenal gland is borderline enlarged (0.56 cm at cranial pole) (0.65 cm at caudal pole) (2.23 cm in length); normal shape; homogenous parenchyma. The glandular echogenicity and detail are unremarkable. Capsule, cortex, and medullary definition are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

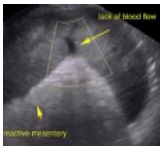
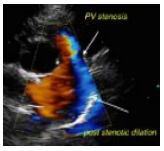
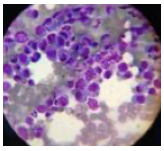
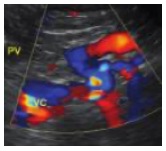
The right adrenal gland is mildly enlarged (0.74 cm at cranial pole) (0.88 cm at caudal pole) (2.41 cm in length) with a slightly irregular shape. The glandular echogenicity and detail are unremarkable. Capsule, cortex, and medullary definition are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

Spleen

The spleen is normal in size (1.93 cm in width at the level of the hilus) with a normal capsular contour. There is appropriate echogenicity and echotexture. A few small ill-defined hyperechoic nodules are observed, the largest measuring 1.21 cm in its longest dimension. Splenic vasculature is normal.

Liver

The liver is subjectively enlarged with swollen, slightly irregular peripheral contours. The parenchyma is isoechoic relative to the spleen and exhibits mild heterogeneity. No distinct focal lesions are observed. Hepatic vasculature and biliary tracts are of normal volume with no evidence of congestion. The gall bladder lumen is moderately distended. The wall is thin and smooth. A moderate amount of aggregated echogenic to mineralized debris/sludge is observed within the lumen, most of which is

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gravity-dependent and some of which is adhered to the luminal surface. There is a questionable discreet cholelith (1.08 cm). It appears non-obstructive. The cystic and common bile ducts are normal/not seen.

Gastrointestinal

The stomach and intestine are free of stasis and exhibit normal peristaltic activity. The gastric lumen is not distended. The gastric wall and pylorus are normal in thickness with a normal layering pattern. The pyloric outflow tract is patent. The small intestinal lumen is not dilated. The small intestinal wall thickness is normal with a normal layering pattern and appropriate mural detail. Discreet masses are not identified. The ileocecocolic junction and colonic wall are normal. No obstructive disease is noted.

Pancreas

The region of the pancreas is isoechoic relative to surrounding omental fat. No obvious parenchymal abnormalities are observed. There is no evidence of regional inflammation or effusion.

Free Abdomen

There is no obvious evidence of free fluid. There is a questionably prominent periportal lymph node (1.38 cm) in diameter. A few mesenteric lymph nodes are also visible.

*An ultrasound guided fine needle aspirate of the liver was obtained at the end of the study.

ULTRASONOGRAPHIC FINDINGS

Primary Findings:

- Suspected diffuse hepatopathy. Differentials include inflammatory disease (i.e., bacterial cholangiohepatitis, chronic hepatitis), hepatotoxicosis (i.e., copper), infiltrative neoplasia (i.e., lymphoma), regenerative nodular hyperplasia, vacuolar hepatopathy, other hepatopathy or some combination thereof. The pattern of liver enzyme elevations is most concerning for a primary hepatopathy (vs vacuolar hepatopathy secondary to Cushing's disease) although vacuolar hepatopathy may be present concurrently
- Gallbladder debris/sludge, some of which is mineralized +/- a distinct cholelith, which is non-obstructive.

Secondary Findings:

- The prominent abdominal lymph nodes are most consistent with reactive lymphadenitis or lymphoid hyperplasia. Neoplastic infiltration is considered less likely.
- The hyperechoic splenic nodules have a propensity for the benign (i.e., meylolipomas) with a low possibility of emerging neoplasia (i.e., mast cell tumors).
- Bilateral chronic age-related renal changes.
- Mild bilateral adrenomegaly.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

- Pre and post prandial serum bile acids can be considered to evaluate hepatic function.

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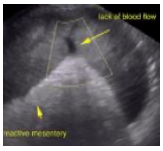
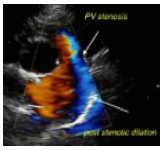
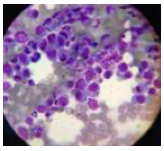
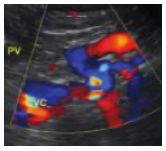

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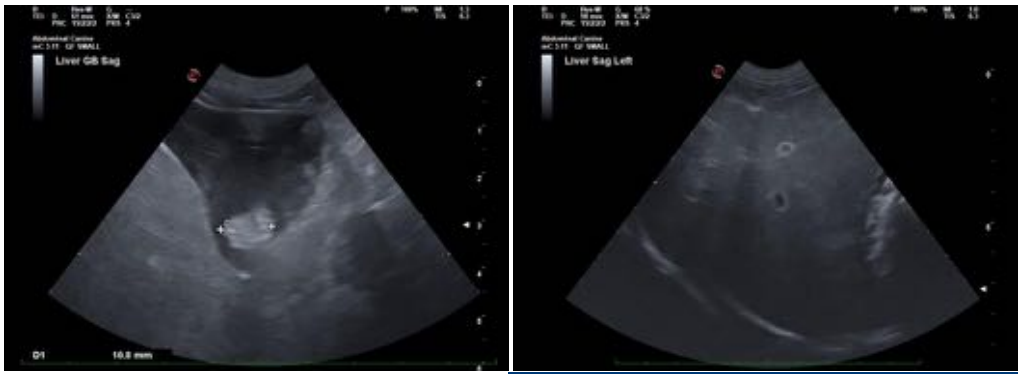
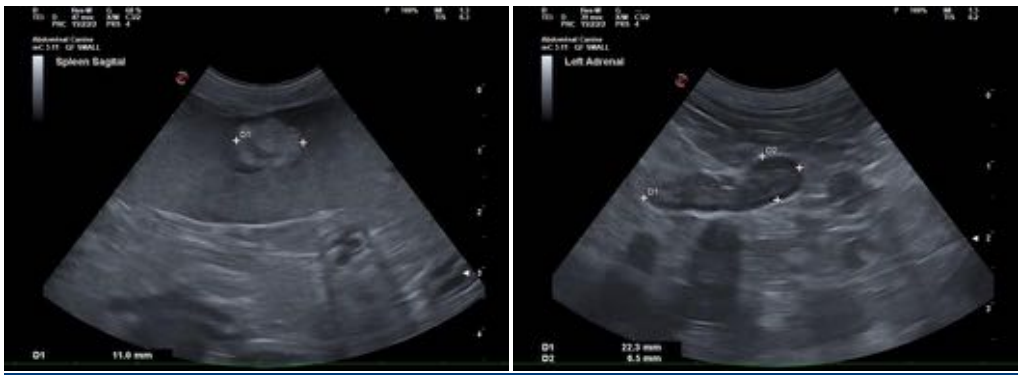
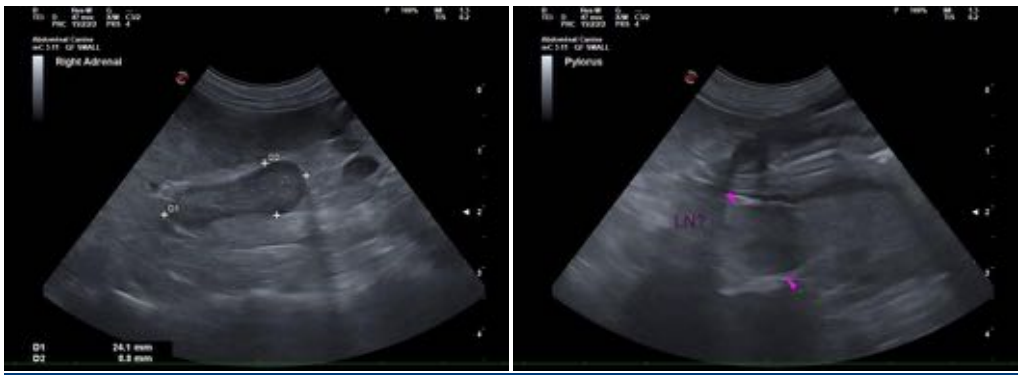
- Leptospirosis testing is also a consideration, particularly if the liver enzyme elevations are acute in nature and or if clinical suspicion for disease is high.
- If hepatic cytology results are inconclusive, liver biopsies with bile cultures and hepatic copper quantitation may be necessary to get a definitive diagnosis.
- Consider testing for hyperadrenocorticism with a low-dose dexamethasone suppression test or ACTH stimulation test if clinical signs (i.e., PU/PD) develop in the future.







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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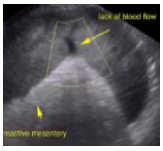
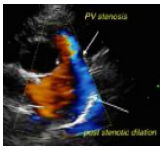
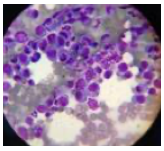
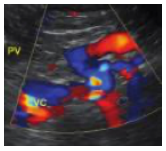

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