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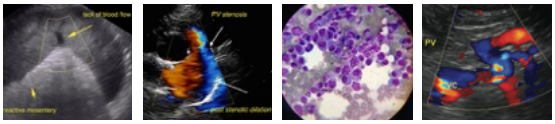


ANIMAL SOUNDS NW
MOBILE VETERINARY ULTRASOUND
IMAGING PERFORMED BY
AnimalSoundsNW.com 541-357-9423

PATIENT

Hazelnut Schjoll

SPECIES

Canine

BREED

Pit Bull Mix

SEX

Spayed Female

AGE

10y

WEIGHT

73 lbs

INTERPRETED BY

Beth Johnson, DVM DACVIM

IMAGING PERFORMED BY

Jenna Walsh, CVT

HOSPITAL NAME

VCA Mckenzie AH

REFERRING VET

Dr. Arpaia

INVOICE

10397

DATE

8/9/2023

PRESENTING CLINICAL SIGNS

HX of pheochromocytoma with left adrenalectomy in 2018, multiple cutaneous Mast cell tumor excised 2018 and dermal hemangiomas - excised 2020 July exam and labs: Progressive liver enzyme elevation Distended abdomen Excessive panting DJD - both hips NEW: systolic murmur 3/6, VPC's, pulse deficits noted 8/8/23 BPs- 149/118/132, 129/109/119, 128/111/118.

Abnormal PE/Chem/CBC/UA Results: July 12, 2023, Chemistry profile - - ALT 167 (12-118) - ALP 410 (5-131) - BUN 32 (6-31) - Cholesterol 381 (92-324); Urinalysis - USG 1.015 pH 5.5 urine chems: 1+ pro urine sedi: nsf MA: 9.8 (<2.5) July 2023- normal thyroid and low dose dexamethasone suppression testing

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately distended with anechoic contents. No masses, inflammatory changes, echogenic sediment or cystoliths are observed. The urinary bladder, trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.

The right kidney is normal in size (7.19 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed.

The left kidney is normal in size (7.13 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed.

Adrenal Glands

The right adrenal gland is normal in size (cranial 0.49 cm, caudal 1 cm), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

The left adrenal gland has been reportedly previously removed. There is no evident pathology noted in the area of the left adrenal gland.

Spleen

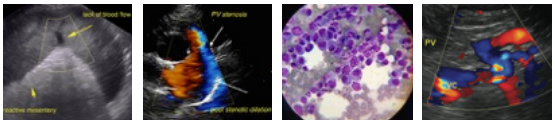
The spleen is subjectively normal in size with a normal smooth capsular contour. Parenchyma is appropriately finely textured and homogenous with normal echogenicity relative to surrounding tissue (hyperechoic to liver). No focal nodules or masses are observed. Splenic vasculature appears normal.

Liver

Liver is subjectively enlarged with mildly irregular margins. Parenchyma is heterogenous characterized by multiple poorly defined hypoechoic nodules within otherwise hyperechoic liver parenchyma. Visible vasculature and biliary tree appear normal without distension or congestion.

Gallbladder is moderately distended with anechoic bile as well as suspended and gravity dependent echogenic debris. The wall is smooth without visible thickening. There is no evidence of cystic or CBD dilation. There is no evidence of effusion or inflammation.

Gastrointestinal



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The stomach wall is normal in thickness (canine < 0.5 cm and feline < 0.4 cm) and layering. The lumen of the stomach is empty with no evidence of obstruction or foreign material. Pyloric outflow tract appears patent.

The visible small intestines are normal in wall thickness and layering (canine duodenum < 0.5 cm and feline duodenum < 0.4 cm; other < 0.3 cm). Small intestinal motility appears adequate (1-3 contractions per min). The lumen of the small intestine is empty with no evidence of obstruction or foreign material.

The visible colon is normal in wall thickness (< 0.2 cm) and layering. Contents are consistent with normal formed feces and gas.

Pancreas

The pancreatic parenchyma is appropriately isoechoic to surrounding tissue. Visible capsule is smooth and normal in contour. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

Free Abdomen

There is no evidence of free peritoneal effusion noted in these images.

There is no apparent lymphadenopathy noted in these images.

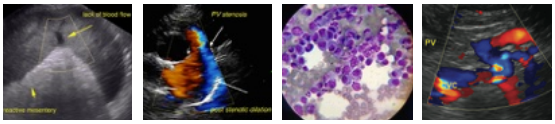
ULTRASONOGRAPHIC FINDINGS

- **Heterogenous Liver –** These changes are most consistent with benign processes such as nodular hyperplasia, steroid (vacuolar) hepatopathy, extramedullary hematopoiesis or possibly chronic inflammatory disease and less commonly infiltrative round cell or metastatic neoplasia.
- **Mild gallbladder debris -** Cholecystic debris is of unknown clinical significance. It can be seen with biliary stasis from fasting or illness. Cholecystic debris is not necessarily related to hepatobiliary disease. Echogenic bile is most commonly an incidental finding in dogs and should be interpreted in combination with clinical signs such as nausea, inappetence, cranial abdominal discomfort and/or laboratory changes such as increased ALP and/or increased Tbili.
- The left adrenal gland has been previously removed.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Differentials for a primary cholestatic liver enzyme pattern (increased ALP) are vast and non-specific. Differentials include, but are not limited to, benign nodular hyperplasia which occurs in 70% of older dogs and often does not result in an abnormal ultrasound, reactive or idiopathic/vacuolar hepatopathy, cholestasis and/or hyperadrenocorticism as well as many chronic non-hepatobiliary diseases such as chronic infections/inflammation from dental disease, IBD, neoplasia, hyperlipidemia, hypothyroidism, chronic pancreatitis, chronic stress, etc.

There is no ultrasonographic evidence of cholestasis. Adrenocortical testing such as a low dose dexamethasone suppression test could be considered if clinical signs of hyperadrenocorticism are present. Ursodiol could be considered if gallbladder sludge is noted. A fine needle aspirate of the liver



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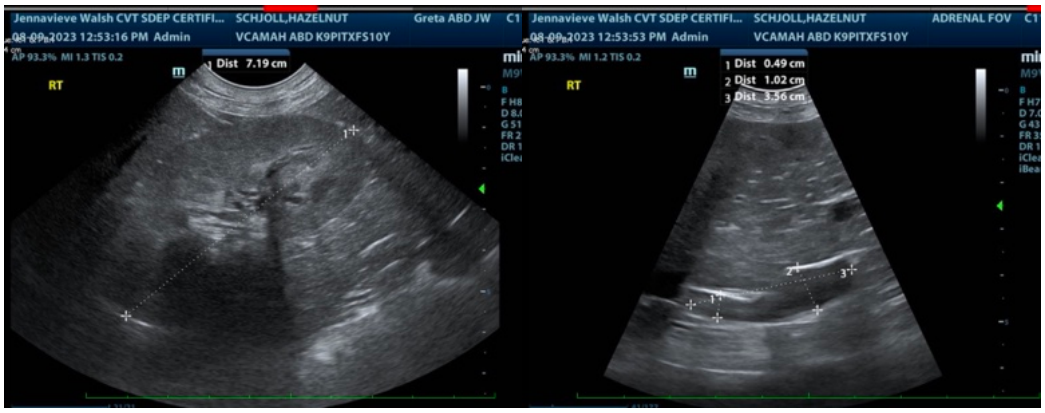
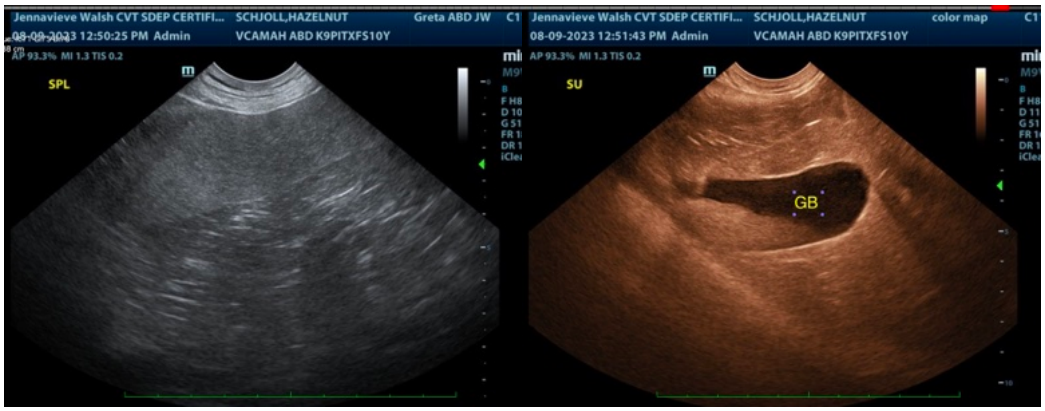
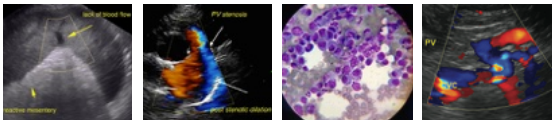
could be considered if patient's coagulation status is appropriate. Otherwise, recommendations include addressing any other concurrent disease and monitoring. If values are progressive, recheck imaging is recommended.

In this patient specifically, given history a fine needle aspirate of the liver could be considered if patients coagulation status is appropriate. In the meantime, an empirical course of hepatic nutraceuticals including Ursodiol is recommended given the liver enzyme changes and mild gallbladder debris.







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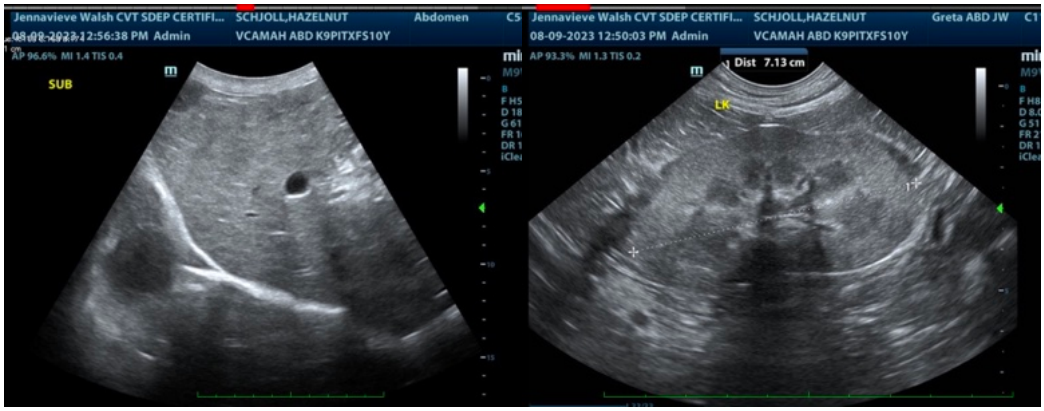

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Beth Johnson, DVM, DACVIM
info@sonopath.com