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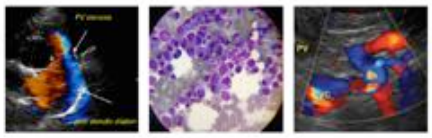

SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™
1-800-838-4268 info@sonopath.com SonoPath.com

PATIENT

Charlie Thompson

SPECIES

Canine

BREED

Dachshund

SEX

Neutered Male

AGE

6 years

WEIGHT

15 Pounds

INTERPRETED BY

Eric Lindquist, DMV DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Tom McNeill

HOSPITAL NAME

Animal Clinic of Elkhorn Dr. Karrels

REFERRING VET

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INVOICE

99518

DATE

4/25/22

PRESENTING CLINICAL SIGNS

History of infrequent seizures with recent increase in frequency over the past week (2 in 48 hours, prior to that was February). Has not been on anti-convulsants. Previous history of necrotizing pancreatitis in October 2021.
Abnormal PE/Chem/CBC/UA Results: BW revealed a low BUN, low amylase, remainder WNL. Post prandial bile acids elevated (111, pre 9.9).

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The **urinary bladder**, trigone, and pelvic urethra presented normal thicknesses and normal tone. The ureters were not visible which is normal. No uroliths or sediment were visualized and anechoic urine was present. No evidence of inflammatory or neoplastic changes was noted. Ureteral papillae were normal.

The residual prostate was uniform and measured 0.76 cm.

The **kidneys** revealed normal size and structure, corticomedullary definition and ratio for this age. The cortices presented largely uniform texture with normal echogenic relationship to liver and spleen. Medullary structure differed distinctly from the cortex and no evidence of pelvic dilation was present. The capsules were acceptably uniform without significant irregularities. The right kidney measured 4.28 cm. The left kidney measured 4.0 cm with slight pinpoint mineralization.

Adrenal Glands

Both **adrenal glands** were 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 left adrenal gland measured 0.37 cm at the cranial pole and 0.42 cm at the caudal pole.

Spleen

The **spleen** presented a smooth homogeneous parenchyma hyperechoic to liver and renal cortical parenchyma. The capsule was smooth without noticeable expansion or deviation from within the spleen or adjacent pathology. The splenic vasculature demonstrated normal volume without signs of congestion or thrombosis. No sonographic evidence of acute or chronic inflammatory, neoplastic, or infarctual changes was noted.

Liver

The **liver** was largely normal to slightly subnormal in size. . Occasional, hyperechoic, lipogranulomatous type nodule is noted. A mildly expansive swelling with a 1.0 cm hyperechoic nodule was noted in the caudate process. Other occasional, hyperechoic nodular changes are noted. This is consistent with lipogranuloma. An abnormal vessel appeared to derive from the portal vein or the splenic vein juncture with the portal vein approximately 1.0 cm caudal from the portal hilus. It decoursed dorsally into the aortic hiatus. There appears to be an extra vessel between the vena cava and aorta, which would suggest azygos shunt. Intrahepatic vascularity was subjectively subnormal. The gallbladder and common bile duct were unremarkable.

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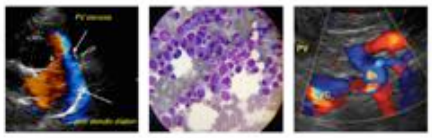

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Gastrointestinal

Examination of the **gastrointestinal tract** revealed a stomach and intestine free of stasis, of normal wall thickness, acceptable curvilinear mural detail, and peristaltic activity. Small and large intestine demonstrated normal luminal chyme and stool consistency respectively. No obstructive or overt infiltrative disease was noted. No associated abnormal lymphatic activity was noted.

Pancreas

The base and limbs of the **pancreas** were observed to be largely isoechoic to surrounding omental fat. Pancreatic duct and capsular contour were acceptably normal and parenchyma respected normal curvilinear patterns. No overt evidence of active inflammatory or neoplastic disease was noted.

ULTRASONOGRAPHIC FINDINGS

Extrahepatic shunting, consistent with splenoazygos shunt; however, CT with contrast is recommended to confirm.

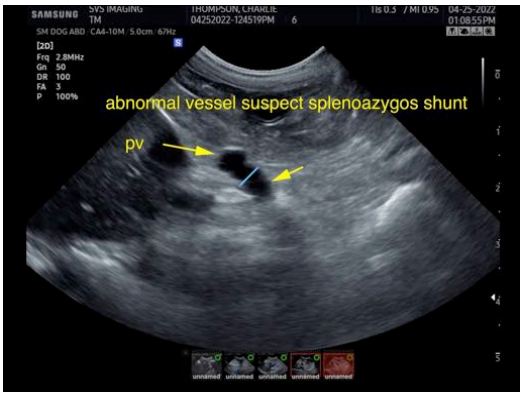
Irregular swelling at the caudate process.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Ultrasound-guided FNA of the hepatic nodule is indicated or if extrahepatic shunt is confirmed, a biopsy of the caudate process of the liver is indicated at the time of shunt correction surgery.

Hepatic Support for Bile Acid Elevation +/- Hepatic Encephalopathy

Royal Canin Hepatic Support diet or Hills L/D, **Metronidazole** (7.5 mg/kg PO bid) over the next 14 days, **Lactulose** (Oral: 3.1-3.7 g/5 ml lactulose in a syrup base) long term to target 2-3 soft stools/day, with a **high-quality protein supplement** of minor amount of **yogurt** or **cheddar cheese**. Monitor bile acids, with attention paid to dropping albumin, BUN or cholesterol. SAMe and nutraceuticals as needed. **Ursodiol (**10-15 mg/kg p.o. q24h) can be considered as hepatoprotectant and to enhance bile flow. **Zinc** serum level keep between 200—500 ug/dl. If deficient then Tx zinc acetate 1-3 mg/kg/day. Gastrointestinal protectants are recommended if the patient is anorexic.



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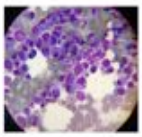


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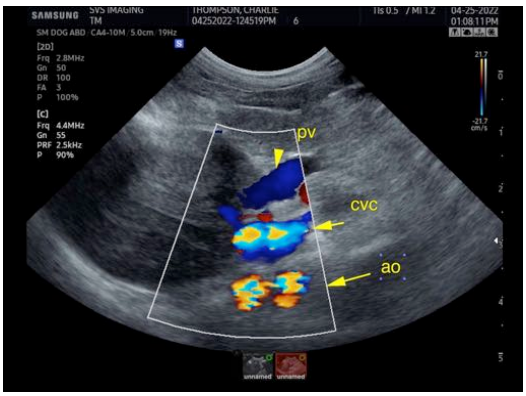

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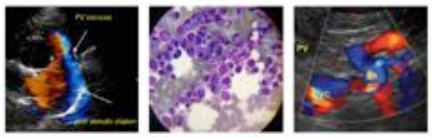

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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Eric Lindquist, DMV, DABVP, Cert. IVUSS, CEO of SonoPath.com
Eric.Lindquist@SonoPath.com