


**PATIENT PRESENTING CLINICAL SIGNS**

Herriot Teshera

**SPECIES**

Canine

**BREED**

Border Collie

**SEX**

Spayed Female

**AGE**

12 Years

**WEIGHT**

52 Pounds

**INTERPRETED BY**

 Kathleen Sennello DVM,  
 MS, Diplomate ACVIM  
 (Small Animal Internal  
 Medicine)

**IMAGING PERFORMED BY**

Dr. Carter

**HOSPITAL NAME**

Willamette VH

**REFERRING VET**

Dr. Carter

**INVOICE**

33625

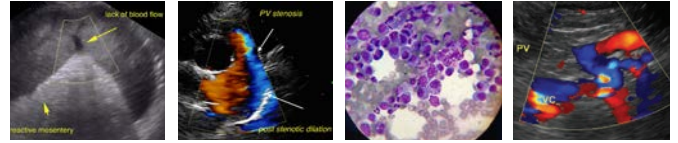
**DATE**

12/21/21

Presented 11-5: The pt was seen at Rivers edge on 11/3 with trouble walking, leth, no e/d , and 104 temp. They said that the pt poss has ivdd or soft tissue injury. The pt was rx 300mg of gaba but O thinks it made her too sedate and ataxic. The pt has been going to SOAR for physical therapy every wk for 1.5 years, stopping in June. The O has noticed an increase in RR intermediately but no coughing noted. The pt is eating with lots of encouragement and very slowly plus an increased in water intake. The pt is ur/bm wnl and no signs csvd. The pt does have a hx of laryngeal paralysis. Diagnosed with cholangiohepatitis; Treated with Denamarin, Ursodiol, Enrofloxacin, Amoxicillin. Recheck US and labs 11-18; labs improved, but liver nodule still present Has been on antibiotics and liver support for total 5 weeks. Weight is stable, clinical signs are resolved. Normal PE. O complaint that she is ravenously hungry all the time. OK to stop meds? ravenous appetite?

Abnormal PE/Chem/CBC/UA Results: Labs 11-5: CBC-possible bands, but otherwise unremarkable CHEM 17- ALKP 225, CHOL 338, Creat 2.0 Lytes - WNL USG 1.035, WBC 4/hPF, RBC 9/hpf, poss cocci-negative on bacteria on confirmation Initial US on 11-5: Ultrasound report: Liver The liver was mildly swollen and slightly heterogeneous. Occasional mixed echogenic nodule noted. A hypoechoic nodule was noted in the left cranial liver measuring approximately 3.0 cm. Mild irregular swelling noted in the liver. Echogenic, mildly thickened gallbladder. Minor gallbladder polyp present

**ULTRASONOGRAPHIC FINDINGS** • Swollen, irregular liver with nodular changes • Full stomach with possible foreign matter depending on when the patient ate prior to sonogram **INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS** Ultrasound guided FNA of the liver strongly recommended (both the general parenchyma and nodular changes). Round cell neoplasia possible versus nodular hyperplasia. The cause of the fever is unclear. Low-grade UTI is possible given the mild pyuria. Enrofloxacin/Clindamycin combination could be considered empirically. However, I do recommend FNA of the liver to ensure the changes are benign. FNA of liver nodule: **SOURCE:** Fine-needle aspirate of liver. 3 slides received for evaluation. **DESCRIPTION:** Slides received are bloody and mildly to occasionally moderately cellular. 2 slides reveal clusters of hepatocytes with mildly increased numbers of associated neutrophils and small lymphoid cells. Hepatocytes reveal mild hepatocellular vacuolar degenerative changes with mild regenerative/ proliferative changes: Mild anisocytosis, mild anisokaryosis, somewhat variable NC ratio. **MICROSCOPIC FINDINGS: CYTOLOGY REVEALS MILD MIXED SUPPURATIVE AND LYMPHOCYTIC INFLAMMATION WITH MILD HEPATOCELLULAR CYTOPLASMIC VACUOLAR DEGENERATIVE CHANGES AND MILD REGENERATIVE/ PROLIFERATIVE CHANGES** - - - MOST CONSISTENT WITH AN UNDERLYING MILDLY INFLAMED AND REACTIVE VACUOLAR HEPATOPATHY **COMMENTS:** There are no infectious agents seen. There are no cells observed suspicious for neoplasia. - The findings on this cytology may reflect an underlying primary mixed inflammatory hepatitis/cholangiohepatitis; however, these findings can also be seen secondary to primary extra hepatic disease: Pancreatitis, enteritis, cholangitis, etc. Correlate with clinical findings. - If these aspirates are from a more discrete/ nodular liver lesion, the combination of vacuolar degenerative changes, mild inflammation, and mild regenerative changes can be seen with underlying regenerative (benign) hepatic nodule formation. 11-18: albumin 2.8, was 2.7 ALP 133, was 225 (23-212) ALT 74, was 118 ; (10-125) globulin 4.9, was 4.5 (2.5-4.5) BUN 37 , was 19 (7-27) creatinine 1.7 , was 2.0 (0.5-1.8) Liver US of 11-18: Urinalysis NSF Other: Liver/gallbladder US; Liver Enlarged with rounded edges, diffuse hyperechogenic coarse and nodular appearance, and some loss of portal markings. Nodules are small and anechoic. Hypoechoic parenchymal mass in the left lobe with some distortion of the overlying capsule. Full gall bladder containing normal anechoic bile. Hyperechogenic appearance of the gall bladder wall. **INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS** The appearance of the liver is consistent with an inflammatory hepatitis/cholangio-hepatitis with possible etiologies being viral, bacterial, leptospirosis, copper/iron hepatitis, and toxins. The hepatic mass may merely be an extension of the nodular hepatopathy with hematoma, granuloma, hepatoma, neoplasia, and organized abscess, differential diagnoses. The appearance of the gall bladder is indicative of a prior episode of cholecystitis. Further assessment that can be considered would be Leptospira PCR/titers. A Tru-cut biopsy may give a more specific diagnosis. Specific therapy would be to continue with the current therapy – denamarin, ursodiol, and antibiotics. Liver diet should also be considered as it low in copper and is supplemented with zinc and antioxidants. Labs today BUN 34 creatinine 1.8 ALT 77 ALP 85



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**LIMITED ULTRASONOGRAPHIC EXAMINATION OF THE LIVER**

The liver is large in size, and normal echogenicity with slightly irregular shape. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary tract appear normal. There is a generally coarse echotexture resulting in the appearance of ill-defined, hypoechoic nodules. Additionally, there is a more discreet hypoechoic, solid mass effect on the left side of the liver measuring approximately 4.2 cm x 2.7 cm (previous measurements were reported at approximately 3.0 cm).

The gallbladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. Luminal contents are primarily anechoic. The cystic and common bile ducts are normal/not visible.

**ULTRASONOGRAPHIC FINDINGS**

- Heterogeneous, slightly irregular liver with coarse echotexture and left-sided hepatic mass – The diffuse hepatic changes are non-specific and could be consistent with vacuolar hepatopathy, nodular hyperplasia, inflammatory/immune-mediated disease, fibrosis, extramedullary hematopoiesis, toxic hepatopathy (e.g., copper), infiltrative neoplasia (less likely) or other hepatopathy. Findings today are similar to previous reports. The mass effect could be slightly larger as compared to previous measurement at approx. 3cm.

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

The liver appears fairly stable from previous reports. It is somewhat difficult to assess the liver mass, as it is irregularly shaped. Based on the history provided, a long course of antibiotics was implemented, and the patient is no longer febrile and feeling better? If this is the case, I would consider finishing antibiotics.

- Recommend pre- and post-prandial bile acids if not previously done, as liver enzyme improvement does not always correlate with improved liver function.
- Recommend serology for Leptospirosis, as the antibiotics could address the acute phase but not the carrier phase.
- If liver function is abnormal, or values continue to rise/persist, and no other illness is detected, then consider liver biopsy for histopathology and culture and copper levels.
- Prior to considering a biopsy, I would recommend a contrast CT scan to further evaluate the hepatic mass for possible surgical removal.
- Recommend 3-view thoracic radiographs.

The gallbladder appears much improved from previous reports. This should continue to be monitored, and/or long-term Ursodiol therapy could be considered.





**PATIENT**

Herriot Teshera

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

**SPECIES**

Canine

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.

**BREED**

Border Collie

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kathleen.sennello@sonopath.com

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