



**DATE PRESENTING CLINICAL SIGNS**

2/10/22

Asymptomatic. Current meds: Denamarin, Clavamox Drops, Metronidazole. U/S findings: The liver is subjectively normal in size with normal smooth curvilinear peripheral contour. However, the parenchyma is heterogeneous/mottled, characterized by multiple poorly defined hypoechoic nodules within an otherwise hyperechoic liver parenchyma. Visible vasculature appears normal. The gallbladder is non-distended in size. The wall is smooth without visible thickening. Luminal contents are primarily anechoic. There is no evidence of cystic or common bile duct dilation. TP 4.9, Alb 2, ALT 288, ALKP 577. Bile acids pending.

**INTERPRETED BY**

L.D. McGill, DVM,  
Ph.D, DACVP

**CYTOLOGY SUBMISSION**

Liver

**PATIENT**

Chip Birkland

**OBSERVATIONS**

Liver: Submitted are 4 excellent videos of liver aspirates collected from Chip. There are good collections of hepatocytes throughout these videos. The hepatocytes demonstrate some granularity with multifocal areas of vacuolization. Vacuolization is characteristic of lipid in many different aggregates of hepatocytes. There are scattered inflammatory cells associated with the hepatocytes which include neutrophils, lymphocytes and rare macrophages. There are no changes that suggest malignant criteria or infiltration of any cellularity.

**SPECIES**

Canine

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Liver - Multifocal hepatocellular vacuolization with very mild inflammation and no evidence of neoplasia.

**BREED**

Shih Tzu

**COMMENTS**

The changes in these hepatocytes suggest the possibility of mild metabolic liver disease. This could be the result of steroid hepatopathy or the result of pancreatitis or enteritis of a nonspecific nature. There is no suggestion of malignancy either in the hepatocytes or the associated inflammatory cells. If problems continue, then further evaluation of other organs is encouraged. I have seen many cases of increased enzyme levels from the liver in dogs that lived with that enzyme elevation for their lifetime. It was nonpathogenic. Continued monitoring is always in order.

**AGE**

6y11mo

**WEIGHT**

6.4 lbs

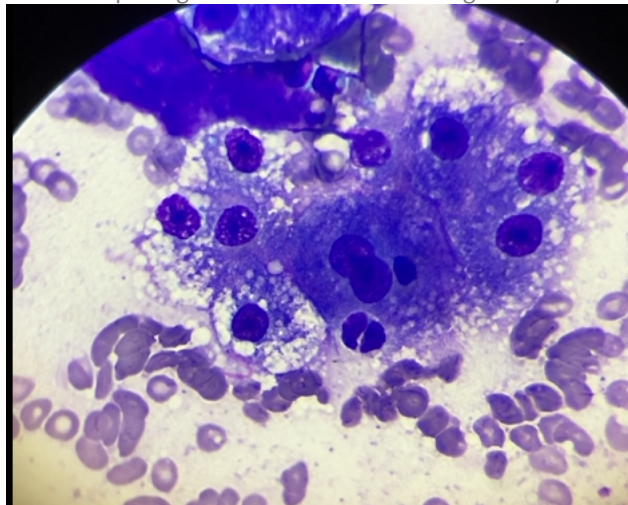


Image shows vacuolated hepatocytes collected from Chip. The remaining cellularity is within normal bounds.

**HOSPITAL NAME**

Newton Veterinary  
Hospital

**REFERRING VET**

Dr. Wyman-Greenwald

**INVOICE NUMBER**

665



**DATE**

2/10/22

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.

**INTERPRETED BY**

L.D. McGill, DVM,  
Ph.D, DACVP

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.

**PATIENT**

Chip Birkland

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**SPECIES**

Canine

**BREED**

Shih Tzu

**SEX**

Male Neutered

**AGE**

6y11mo

**WEIGHT**

6.4 lbs

**HOSPITAL NAME**

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Hospital

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