



**DATE PRESENTING CLINICAL SIGNS**

12/8/21

No clinical signs, but bloodwork changes noted during pre-anesthetic workup for dental cleaning  
CBC - thrombocytosis; Chemistry - ALT 435, ALP not registering (suspect too high to register),  
GGT >952; ultrasound reveals very heterogenous hepatic parenchyma with both hyperechoic  
and hypoechoic regions noted, GB wall is very abnormal with loss of normal layering

**INTERPRETED BY**

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

**CYTOLOGY SUBMISSION**

FNA of Liver

**OBSERVATIONS**

Liver: Submitted are 6 excellent videos of moderate collections of hepatocytes with some other cells  
from the liver in Jack. The hepatocytes demonstrate variations of hepatocellular granularity and  
vacuolization. There is slight anisokaryosis in the hepatocytes. There are many naked nuclei  
throughout the smear. There are scattered neutrophils and lymphocytes in the smears. Malignant  
criteria are not identified in those cells. Many of the naked nuclei and hepatocytes have prominent  
nucleoli.

**PATIENT**

Jack Coon

**SPECIES**

Canine

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Liver - Moderate hepatocellular vacuolization and granularity with mild evidence of inflammation.

**BREED**

Bichon Frese

**COMMENTS**

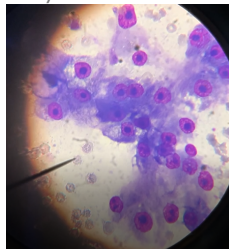
The changes in the hepatocytes support metabolic liver disease changes resulting in hepatocellular  
vacuolization and granularity. This can cause ultrasound changes. The hepatocellular membranes may  
be leaking enzymes and thus Jack will continue to have increased liver enzyme levels in the blood, but  
this will be a non-pathologic change. There is an outside possibility of nodular hyperplasia or even  
early hepatocellular adenoma, but I cannot make that diagnosis from these collections. The naked  
nuclei are interesting observations of which I cannot confirm a source. If further diagnostics are  
required, follow-up biopsies may be necessary, but in my opinion, Jack will likely live with these  
enzyme levels for the remainder of his life in a non pathogenic state.

**SEX**

Male Neutered

**AGE**

13y



**WEIGHT**

12#

Image shows hepatocytes collected from Jack. Note the vacuolization and prominent nucleoli.

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.

**HOSPITAL NAME**

Ruidoso Animal Clinic

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.

**REFERRING VET**

Dr. Amanda Favis

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Cottonwood Heights, UT 84121  
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**INVOICE NUMBER**

70431



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12/8/21

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Ph.D, DACVP

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