



**DATE PRESENTING CLINICAL SIGNS**

6/29/23

Patient was presented for elevated liver enzymes, possibly PU/PD and vomiting once a week per owner.

**INTERPRETED BY**

**CYTOLOGY SUBMISSION**

FNA of Liver and Spleen

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

**OBSERVATIONS**

**PATIENT**

Skipper Higgins

Liver: Submitted are several images and 1 video of cells collected from the liver in Skipper. The hepatocytes demonstrate slight granularity and vacuolization. The surrounding red blood cells have minimal cellularity and thus neoplasia is not identified. The hepatocytes appear to be reactive and not neoplastic.

**SPECIES**

Canine

Spleen: Submitted are several images and 2 videos of cells collected from the spleen in Skipper. The cellularity is mixed with scattered neutrophils and nucleated red blood cells but there are large collections of lymphoid cells with many large cells with prominent nucleoli. There are scattered structures suggestive of early mitotic figures. Degeneration of the cells has occurred. The lymphoid cells suggest the possibility of malignant characteristics.

**BREED**

Welsh Terrier

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Liver - Hepatocytes with slightly granulated and vacuolated cytoplasm and no other specific cellularity. Spleen - Increased numbers of large irregular lymphoid cells suggesting early high-grade lymphoma.

**SEX**

FS

**COMMENTS**  
The images and videos of the hepatocytes are extremely refractile and thus difficult to interpret but the changes appear to be vacuolar and granulated cytoplasm. There is no suggestion of malignancy in those collections but there are very good collections of hepatocytes. There is no suggestion of inflammation. The liver changes could be secondary to other problems in the abdominal cavity.

**AGE**

10y

The images and videos of the collections of cells from the spleen strongly suggests the likelihood of an early high-grade lymphoma. This is due to the large irregular lymphoid cells observed and included in the attached photograph. There are scattered cells that could be early mitotic figures. There is inflammation in the spleen as well but this could be secondary. If chemotherapy is contemplated, then immunophenotyping of the cells to confirm the specific cell type may be beneficial for prognosis. The slides may be submitted for PARR testing or new slides that are not stained can be submitted for immunocytochemistry staining. Flow cytometry can be beneficial but will require a repeat collection of cells prior to submission to the laboratory. Contacting the laboratory to confirm how to submit flow cytometry samples is encouraged. A guarded to unfavorable prognosis is warranted in Skipper due to the irregular cells in the spleen. These cells could be present in other locations but I cannot confirm that they are in the liver. The liver changes could be secondary to endotoxins from the intestine or from degenerate cells are some other source.

**WEIGHT**

20lbs

**HOSPITAL NAME**

Marsh Hospital for  
Animals

**REFERRING VET**

Dr. Mark Milwicki

**INVOICE NUMBER**

800



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

**PATIENT**

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**SPECIES**

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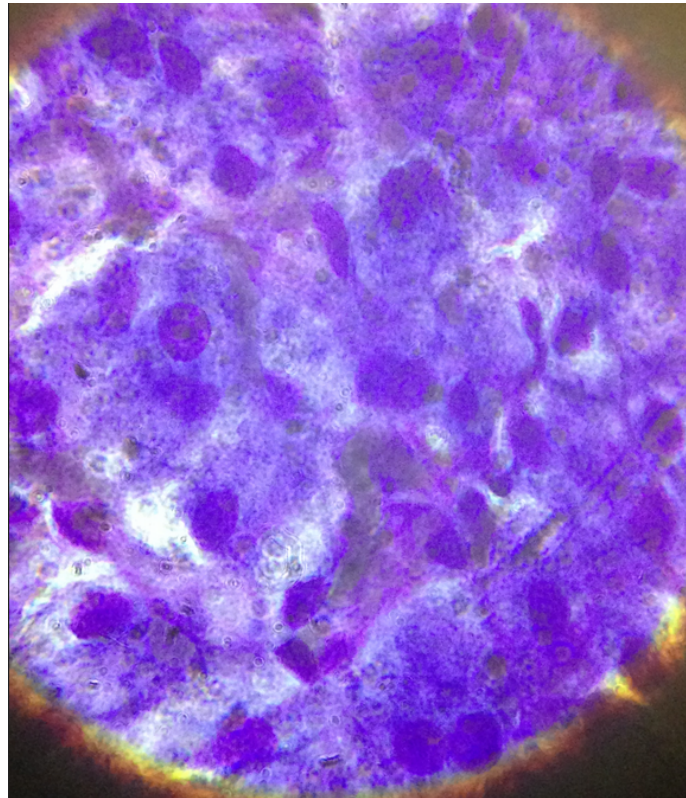


Image shows over refractile hepatocytes with granularity and vacuolization but no other significant change in the hepatocytes collected from Skipper.

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10y

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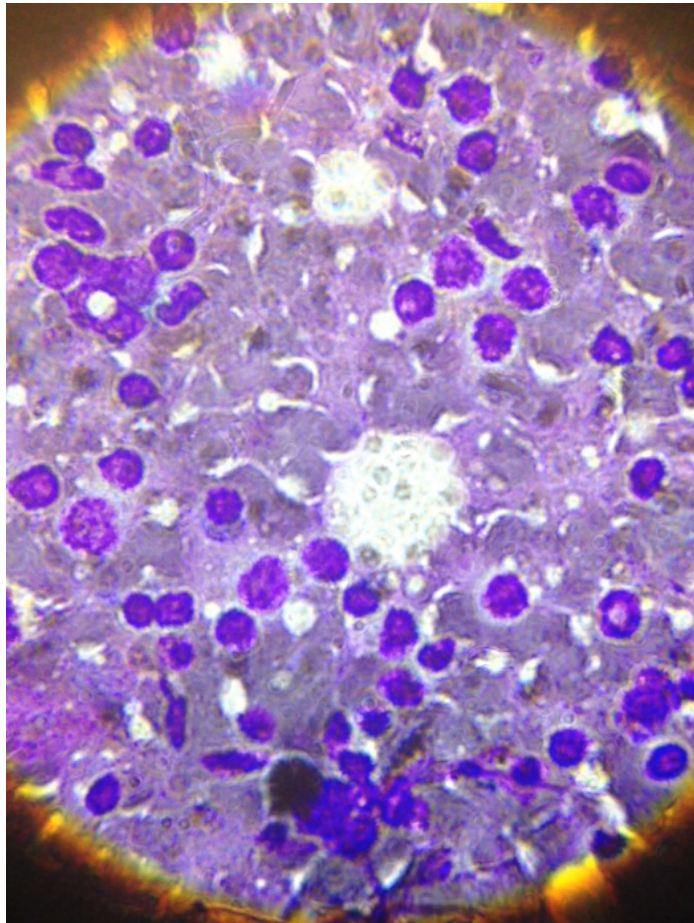


Image shows a field of lymphoid cells with larger cells as part of the collection. There is extensive refractility to the cells. Cells were collected from the spleen in Skipper

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.

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.

**HOSPITAL NAME**

Marsh Hospital for  
Animals

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