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**Zoo/Exotic Pathology Service**  
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<b>Doctor:</b> -	<b>Date:</b> October 13, 2015
<b>Clinic:</b>	<b>Access:</b> V152354
	<b>Species:</b> Chiroptera
	<b>Breed:</b> Lasiurus Intermedius (Northern Yellow Bat)
	<b>Sex:</b> Male
<b>ISIS:</b> MWMC-LI-001	<b>Name:</b> Max
	<b>Age:</b> 5 Months
	<b>Type:</b> Post mortem small jar

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**CLINICAL INFORMATION**

This was raised as an orphan by another rehabilitator and transferred as non-releasable in early July 2015. He was approximately 2 months old. There has been mild metabolic bone disease noted, and the bat was unable to sustain flight. It responded well to a proper diet until September 28. On gross examination, he is dehydrated. There is a small amount of blood in the oral cavity. He died on the 30<sup>th</sup>.

**MICROSCOPIC**

Submitted is the entire bat preserved for examination; however, the body cavity was not opened.

Trachea: No lesion recognized.

Esophagus: No lesion recognized.

Liver: The liver is moderately autolyzed. There are bands of fibrosis extending along the portal tracts. This is distorting the normal architecture of the liver. There is increased cellularity, which appears to be primarily a lymphoid cell population within the portal triads.

Spleen: The spleen is moderately autolyzed.

Penis: No lesion recognized.

Kidney: Examined are sections through the cortex and medulla of the kidney. There are multifocal areas of mineralized concretions within the lumen of primarily collecting ducts and some tubules.

Pancreas: These sections are mildly autolyzed.

Stomach: The stomach is severely autolyzed.

Small intestine: Examined are multiple sections of the small intestine at various levels. No lesion is recognized.

Cerebellum: No lesion recognized.

Cerebrum: No lesion recognized.

CONTINUED

Heart: In the sections of heart, there is mineralization noted of intramural vasculature. This is primarily within the tunica intima and media. Increased numbers of neutrophils are also present within the myocardium at the apex of the heart.

Lung: The interstitium of the lung is expanded with numerous neutrophils.

Haired skin: No lesion recognized.

Wing web skin: No lesion recognized.

Pulmonary mediastinal lymph node: No lesion recognized.

Stomach: No lesion recognized.

### **DIAGNOSIS**

- 1) **LUNG: MODERATE ACUTE INTERSTITIAL PNEUMONIA**
- 2) **KIDNEY: MILD MULTIFOCAL RENAL MICROLITHS**
- 3) **HEART: MILD MULTIFOCAL VASCULAR MINERALIZATION**
- 4) **HEART: MILD FOCAL ACUTE MYOCARDITIS**
- 5) **LIVER: VARIABLE MILD PERIportal FIBROSIS AND CHOLANGITIS**

### **COMMENT**

There are a number of lesions, which may have contributed to debilitation before death. The mineralization recognized within the vasculature of the heart as well as into the kidney could suggest dietary imbalances of calcium, phosphorus, and/or vitamin D. This could be related to the earlier observation of metabolic bone disease.

There is evidence that there has been previous damage to the liver characterized by the periportal fibrosis and a persistent cholangitis. This would suggest an ascending inflammatory lesion from the gastrointestinal tract; however, no significant lesions are noted within these examined sections. It is possible that autolysis may be obscuring such lesions.

The interstitial pneumonia is most likely secondary to systemic inflammation and, based on the cell population, it is an acute lesion.

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Q3 KW systemic, metabolic