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Zoo/Exotic Pathology Service
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| Doctor: - | Date: October 26, 2015 |
| Clinic: Bat World South Plains 3501 – 148th Street Lubbock, TX 79423 | Access: V152461 Species: Chiroptera Breed: T. brasiliensis Sex: Male Name: - |
| ISIS: -0 | Age: 5 Years Type: Post mortem small jar |

CLINICAL INFORMATION

There were recurring eye infections over the past year. These developed into respiratory distress, and the bat was euthanized.

MICROSCOPIC

The entire body is submitted preserved for examination.

Skin from wing web: In the skin from the wing web, there is a focally extensive region of hyperkeratosis and cell debris admixed with footprint morphology shaped yeast.

Liver: The liver is congested. No lesion is recognized.

Kidney: Examined are sections through the cortex and medulla of the kidney. No lesion is recognized.

Pancreas: No lesion recognized.

Spleen: No lesion recognized.

Testicle: Examined is a testis of which is inactive, characterized by a lack of spermatozoa formation within seminiferous tubules. No lesion is recognized.

Brain: Examined are multiple sections of the brain, which includes the cerebrum and cerebellum. At the base of the brain within the brainstem, there is great expansion of the meninges with suppurative inflammation, which is characterized by viable and degenerated neutrophils admixed with fibrin and edema. Colonies of small thin rod-shaped bacteria are recognized admixed with this material.

Intestines: Examined are multiple sections of the intestines, which are packed with cestodes. These have pseudosegmentation with calcareous bodies within the body stroma and dense clusters of eggs. These have a thin shell wall.

Adrenal gland: No lesion recognized.

Stomach: No lesion recognized.

CONTINUED

Heart: No lesion recognized.

Lungs: Examined are sections of the lungs in which there are large nodular aggregates of lymphocytes with smaller numbers of plasma cells surrounding the secondary bronchi.

Trachea: No lesion recognized.

Esophagus: No lesion recognized.

Nasal sinuses: The sinuses are supporting extensive suppurative inflammation within the lumen of the sinuses and extending out into the lining mucosal epithelium.

DIAGNOSIS

- 1) **INTESTINES: SEVERE CESTODE ENTEROPATHY**
- 2) **CEREBRUM/CEREBELLUM: MODERATE FOCALLY EXTENSIVE SEPTIC AND SUPPURATIVE MENINGITIS**
- 3) **WING WEB: FOCALLY EXTENSIVE EPITHELIAL HYPERKERATOSIS WITH INTRAKERATIN YEAST (MALASSEZIA)**
- 4) **LUNG: MODERATE LYMPHOPLASMACYTIC PERIBRONCHITIS**
- 5) **RESPIRATORY SINUSES: SEVERE SUPPURATIVE RHINITIS AND SINUSITIS**

COMMENT

This particular bat has a number of disease conditions, which would have contributed to debilitation and death. There is extensive suppurative inflammation noted in the upper respiratory tract, and this appears to have progressed to become a bacterial meningitis. The bacterial organisms are small thin rod-shaped structures.

This bat is also carrying a heavy load of cestodes within the intestinal tract. Their specific identification is not determined; consultation with a parasitologist may be helpful. The clinical signs with heavy infestation include poor weight gains, abdominal distention, and diarrhea. The diagnosis in live animals relies on fecal examinations for the eggs.

The lymphoplasmacytic peribronchitis in bats has been identified as due to mycoplasma.

The identification of yeast organisms most consistent with *Malassezia* in the keratin of the wing web, is significant. Although these lipophilic yeast are part of the normal cutaneous microflora of most warm-blooded vertebrates, their proliferation is recognized as a significant finding in seborrheic dermatitis of domestic canines. The pathogenesis of the dermatitis is unknown but probably reflects an abnormal microenvironment of the skin permitting the growth of the yeast.

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DRR:br*

Q1 KW CNS, infection (bacteria)